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I.—*Restoration and Translation of the Inscription on the large Arracan Bell now at Nadrohíghát, Zillah Alligarh, described by Captain WROUGHTON in the Journal of the Asiatic Society, December 1837.*

At the suggestion of Colonel BURNEY the larger of the two facsimiles prepared by Captain WROUGHTON, which appeared to his pandit to be in the Talain dialect, was sent to Mr. E. BLUNDELL, Commissioner at *Maulmain*, with a request that he would endeavour to get it read and translated by the natives of that place.

By the hands of Dr. RICHARDSON it was returned to us with a fair transcript of the whole, which we hasten to set up with the aid of the new fount of Burman type cast for the publication of Mr. LANE's Dictionary. The two sides of the bell contain separate copies of the same text, one in *Burmese* and the other in *Talain*, both with an admixture of Páli at the commencement and termination. On setting up the Talain, we found so many characters to be wanting that we were obliged to break up the form; but we have had the whole written in lithography rather than omit it, thinking it might prove interesting to students of these dialects to have the corresponding texts face to face.

For the translation, Mr. BLUNDELL informs us, we are indebted to a young military friend of his who has made some progress in studying the language. The concluding portion being in Páli was translated by Dr. RICHARDSON himself on his way to *Calcutta*. To all these friends, as well as to their native assistants who must have had no easy task in deciphering the facsimile notwithstanding the care and minuteness with which it was executed, we beg to return our best thanks.

It will be seen that the inscription contains a scrap of history of no small interest in its way.

It seems that about the beginning of the seventeenth century the king of *Pegu* being invaded by his neighbour the Burmese sovereign of *Pagahm* (*Pugan* the ancient capital described by Colonel BURNES in the J. A. S. Vol. IV. p. 400) called in the aid of his ally the king of *Martaban*, whom, after gaining his object, he sought treacherously to destroy:—but he became justly the victim of his own stratagem, and was defeated by the *Martaban* king who forthwith possessed himself of *Threethenthawuddee**, (*Pegu*?) having the four cognomens of *Yad-zatannee*, *Bydzatannee*, *Yattatanee* and *Yougatannee*. He is then represented to have endeavoured to extirpate some heresy that offended the sect of Buddhists he brought with him, by scattering the obnoxious articles: and the final act which the inscription records is its own construction for the worthy object of sounding an alarm that should reach the royal ear when any injustice was crying aloud in the streets; this was in the year 984 which if it be reckoned in the vulgar Burmese era will correspond with A. D. 1622.

We cannot help regretting that such a monument should have been removed from the place where it had a name, a history, and an object, to be lost in an obscure Hindu temple in the northwest of India! We know that such sacrilege, for by no other name can we call the plunder of a place of worship, was prohibited; but the preventive checks must have been small indeed that could take no cognizance of the removal of a mass weighing 31 hundred weight! We should like to see the bell claimed by our civil commissioner and restored by our government, as an act more likely than any other to ingratiate us with the people of *Arracan*. We would even compensate in cash the *Resáladár*, if his conscience would not readily concede the bell from his temple when told that it belonged to the hated and impure followers of Buddha!

With RATNA PAULA'S aid we have given the correct *Páli* orthography of many words wrongly spelt on the Bell.—ED.

Burma Version.

ဘဏ္ဍကမ္ဘာ (၁) တက်နှိုက်။ ပွင့်တော်မူ သော်ဘုန်တော်
ကြီးသောဘုရားမြတ်စွာကောဏ္ဍသန်။ (၂) ဘုန်တော်ကြီးသော်
ဘုရားမြတ်စွာဂေါနာဂုန် (၃) ဘုန်တော်ကြီး သော်ဘုရား မြတ်
စွာကဿပသာသနာတော် နှင့်တကွ။ ပရိနိဗ္ဗာန်စံလွန်တော်မူ
ပြီသည်နောက်။ ဘုန်တော်ကြီးသော်ဘုရားမြတ်စွာမဟာရ (၄)

* *Srihansavati*, possessed of swans, a name generally applied to *Rangoon*. The four epithets are Sanskrit names—*Rájdaháni*, *Vidyadháni*, *Ratnadháni* and *Yodhadháni*, the abode of royalty, learning, jewels and warriors.

ဂေါတမ္ပဝံတော်မူသည်။ ဘုရားမြတ်စွာမဟာရ (၅) ဂေါတမ။ ပရိနိဗ္ဗာန်စံလွန်တော်မူပြီး သည်နောက်။ သာသနာတော် ၁၂၇၅ နှစ်လွန်သည်။ သာသနာတော် ၁၆၁၃ ခုနှစ်တွင်။ သမ္ဘာ (၆) နှင့်ပြည့်စုံသည်မင်းဖြစ်တော်မူသည်။ ထိုမင်းသည် မဟာတေဇဘုန်တန်ခိုး နှင့်လည်ပြည့်စုံသည်။ အထာရသ (၇) အတပ်ပညာလည်မသင်မကြား မိမိအထိုတပ်ခြင်။ ညာဏ်ပတိဘန်။ ဥစ္စာနှင့်ပြည့်စုံခြင်။ သင့်သည်မသင့်သည်ကို လည်ဆင်ချင်နိုင်ရှည်ခြင်။ သတ္တိဗလနှင့်ပြည့်စုံခြင်။ အဓိ အရန်ဆွေးမျိုးထို့နှင့်ပြည့်စုံခြင်။ ထိုင်သူပြည်သားထိုးဆင် ရဲရဲကွက်ကိုကယ်ဆယ်ခြင်ဖြင့်မေတ္တာပွားများ၍မစခြင်။ အမတ် ကြီးပေါ။ ထို့ကိုလည်အခွင့်ပေးချင်။ ဒသဗျညာအမတ်ကိုလည် အခွင့်ပေး ခြင်။ မလတရတရားဆိုး ရာမှာသူတထူထိုက်ချစ် ခြင်။ မေတ္တာပွားများ။ လျက်ထူတန်စွန်ကျယ်ခြင်။ ထိုင်သူပြည်သားထိုးကိုအကျိုးစီးပွား များစေခြင်။ ဒေါဗျညာဆိုးရာမှာမင်းအကရာ၏ (၈) အာဘိတ်သိတ်သွန်ခြင်။ မြို့၏အာဗျပါးဆိုး ရာမှာဒသဗလ။ ညာဏဗလ။ ကာယဗလ။ ဝေဇဗလ။ သုတဗလ။ ထိုး ဗလပါဆိုးရာရှိက်။ ဒသဗလသည်ရွှေငွေကျော်သံ ဘတ္တများ နှင့်ပြည့်စုံပေါများခြင်။ ညာဏဗလဆိုရာရှိက်။ မင်း အကရာ၏ဘုန်အာဏာပညာတက် မြန်ပြည်စုံခြင်။ ကာယဗလဆိုးရာရှိက်အထာရသာ (၉) ဂပါသောအတပ်နှင့် ပြည့်စုံသည်သူရဲသူခက်ထို့ပေါများခြင်။ တေဇဗလဆိုးရာရှိက်အမတ်စစ်သူကြီး ထို့ညာဏ်ပညာနှင့်ပြည့်စုံခြင်။ သုတဗလဆိုးရာရှိက်။ မြို့ရွာနယ်အပိုင်အခြာသိကျယ်သည်ညာ

(၁) ဘဒ္ဒကပ္ပ (၂) ကကုသန္ဓ (၃) ကောနာဂမန (၄) မဟာဝီရ (၅) မဟာဝီရ (၆) သဒ္ဓါ (၇) အဒ္ဓါရသ (၈) ကေရာဇ (၉) အဓ္ဓာရသ

ဏ်ပညာနှင့်ရှိသူပေါ်များခြင်း။ ညီးတော်မျှညာယောကျိမြို့က
 နှင်သုတ်သည်အကြောင်မှာ မင်းထို့၏ကြင့်ရာဝတ်နှင့်မညီ။
 ညီးတော်ပြည်မင်း ရိသာဒုက္ခကိုနှိပ်ဖြင့်ကြ။ လွန်စွာ။ ပြော်
 ဆိုး၏။ မိမိသည်။ အမတ်စစ်သူကြီး။ ထို့ကိုအရိုအသေသဂါ
 ရဝမပြုသောကြောင့်။ ဒုသိဒ္ဓတ် ⁽¹⁰⁾ စစ်သူကြီးသည်။ ဗိုလ်
 ခြေလူအများထို့ကိုထွည့်ဖြာ၍။ ပြည်မြို့စာတံဝင်စာသွားလေ
 ၏။ မင်း အေကရာဇ် ⁽¹¹⁾ သည်။ မည်သည်မှာရှိသည်။ ညီး
 တော်အနိန်သည်မည်သည်မှာရှိသည်။ ညီးတော်ယံစေသိ
 ကသည်မည်သည်မှာရှိသည်။ ဝေါ။ လဘတ်တလဝိ။ လဘာ။
 လေရွာဒဿမာနတထာစာသည် မတ်အဒစ မင်မှာကောလိ
 ယကိုစာသည်။ ထိုးသူ၂ယောံမှာလက်ဝဲအ မတ်ဖြစ်သည်။
 ထိုးသူ၂ယောံထို့သည်းမြို့နေရွာသား ထို့ကို။ ညှင်ပန်နှိပ်စက်
 ကြေငွေကိုယူ၍ မစာထိုက်သော ကြောင့်ဆင်ရဲပြန် ခြေသ
 ည်။ ။ ကောတုဝတိ ⁽¹²⁾ ပုကံမြို့က။ စစ်အင်္ဂလေပါးနှင့်တ
 ကွ။ ဒိဒိနက္ခတ်နုကောင်ရက်သာအခါရှိက်။ ဗိုလ်ချေဆင်
 မြင်နှင့်တန်ခူ လဖြည့်ကောင်ရက်ဒ်ဂါနေကောတုဝတိ ⁽¹³⁾
 ပုကံမြို့ကချီထွက်လာ၍ ၁၅ရက်နှင့်ရေံလာသည်။ သိရိဟံ
 သာဝတိမြို့ မှာတပ်စခန့်ချနေရာ။ ထိုးအခါသိရိဟံသာဝတိမ
 င်းအေကရာဇ်လည်။ စတုရင်ဂစစ်ဒ်ဂါလေပါကို ပြင်စင်ဖြိ
 လျှင်။ ချီလာသည်စစ်ကိုဆီးကျိုး၍ထိုက်ရာ စစ်ညိုသောံကြော
 င်။ မုတ္တမ။ မင်းကိုစစ်ကူမည်အကြောင်စာပေဏှင်။ မုတ္တမ။ မ
 င်းကကြာ၍ဗိုလ်ချေး အများဆင်တပ်မြင်တပ်။ အမတ်စစ်သူ
 ကြီးသူရဲသူခက်အလုန်အရင်တညီး တညွတ်တချက်တည်။ မု
 တ္တမကချီလာ၍။ သိရိဟံသာဝတိမြို့ကိုရေံ၏။ မုတ္တမ။ မင်းလ

(10) တုသိဒ္ဓတ္တ (11) ကောရာဇ် (12) ကောတုမတိ (13) ကော
 တုမတိ (14) ဧရာဝန (15) ဧရာဝန (16) ကောရာ (17) ဇရာဝန

ည်အေရာဝံ (14) ဆင်ကိုစီးပြီလျှင်။ ဗိုလ်ချေဆင်။ မြင်။ သူရဲ။ သူခက်အလုန်အရင်နှင့်ခုခံကူညီထိုက်ရာ။ ကေတုဝတိမုကံ မြို့ကစင်သည်တို့မရပ်မခံနိုင်၍။ ဗိုလ်ချေတပ်အလုန်အရင်နှင့်ဆုပ်ခွာသွားကြလေ၏။

မုတ္တမမင်းမူမတ်။ စစ်သူကြီးရဲ မက်တို့နှင့်ကူညီလာသည်ကို။ သိရိဟံသာဝတီမင်းကမုတ္တမ။ မင်းကိုသတ်မည်ကျန်၍ဗိုလ်ချေနှင့်တကွ။ မင်းကြီးလည်း။ ဥပေါသထဆင်ကိုစီးပြီလျှင်၍ထွက်လာ၏။ မုတ္တမ။ မင်ကချီထွက်လာသည်စစ်ကိုမြင်လျှင်။ သုရန်သူကိုအောဗိုလ်ချေနှင့်ကူညီထိုက်ဖျက်သည်။ အောသတ်မည်ကျန်ပြန်သည်။ ကျေဇူကိုမသိ။ သည်ထိုင်ပြည်မှာငါသည်သာသနာဒါယကာ ဖြစ်ရမည်မှန်လျှင်။ ယခုချီလာသည်ရန်သူလေမျက်နှာ။ ရှစ်မျက်နှား တို့ကိုအော။ ချိုးပဲ့နိုင်ပါစေသာသစ္စာဒိတ်ဆန်ပြုပြီလျှင်။ မုတ္တမ။ မင်လည်အေရာဝန် (15) ဆင်တက်သို့တက်၍။ ဗိုလ်ချေဆင်လုန်။ မြင်ရင်နှင့်တကွပြုပြင်သည်မင်းအေကရာဇ် (16) ၊ ပါးဆုန်း၍စစ်ထိုးကြရာ သိရိဟံသာဝတီမင်း စီသည်ဥပေါသထဆင်ကိုထိုး မိ၍အစွဲကျိုး လျှင်အေရာဝန် (17) ဆင်ကိုပြန်ထွန်၍မရမခံဝံသောကြောင့်ဗိုလ်ချေဆင်လုန်မြင်ရင်နှင့်တကွပျက်စီးလေ၏။ ။

မုတ္တမမင်းလည်အောင်စည်ကိုတီးပြီလျှင်။ ထာဏီ (18) ငှပါးနှင့်ပြည့်စုံသည်။ သိရိဟံသာဝတီမြို့ကိုသိမ်းယူရလေ၏။ ထာဏီ (19) ငှပါး။ ဆိုရာမှာရာဇာထာဏီ။ (20) ဗိဇ္ဇာထာဏီ။ (21) ရတ္တထာဏီ (22) ။ ယောဂထာဏီ (23) ။ ထိုးထာဏီ (24) ငှပါးနှိုက်။ ရာဇာထာဏီ (25) ဆိုရာမှာမြတ်သော်မင်းမျိုးဘုန်တန်ခိုးနှင့်ပြည့်စုံခြင်း။ ဗိဇ္ဇာထာဏီ (26) ဆိုရာမှာ အတပ်ပညာနှင့်ပြည့်စုံသူ

(18) ဓဇာဏီ (19) ဓာဏီ (20) ဓာဏီ (21) ဝိဇ္ဇာဓာဏီ (22) ရတနာဓာဏီ (23) ဓာဏီ (24) ဓာဏီ (25) ရာဇဓာဏီ (26) ဝိဇ္ဇာဓာဏီ

ပေါများခြင်း။ ရတ္တထာဏီ⁽²⁷⁾ ဆိုရာမှာ။ ရတနာပေါများ
ပြည့်စုံခြင်း။ ယောဂထာဏီ⁽²⁸⁾ ဆိုးရာမှာအသက်ကိုစွန့်သ
ည်သူရဲသူခက်ပေါများခြင်း။ တာဏီ⁽²⁹⁾ ဂုဏ်နှင့်ပြည့်စုံသ
ည်သိရိဟံသာဝတီမြို့ ကိုသိမ်ယူရ၍မကောင်သော်သူတို့ကို
သုတ်သင်ရှင်လင်မြီလျှင်ငြိမ်ဝတ်စွာစိုးစဉ်တော်မူလေ၏။ ။
မူမတ်သေဏာပတိ။ စစ်သူကြီးတို့က။ သည်မြို့မှာမတော်မတ
ရာရှိသည်ဘုရားပစ္စည်း။ ကရာပစ္စည်း။ သင်ဃာပစ္စည်းများနှင့်
စပ်ဆိုင်သည်။ ထိုးသံကွေးခဲပမာရှိသောမကောင်သော်ဥစ္စာ
ပစ္စည်းများကိုအဝေးမှာစွန့်ပြစ်ရအောင်မင်းအကရာ၏⁽³⁰⁾
ထံတင်လှူလျှင်။ ထိုးမကောင်မသန္တိသောဥစ္စာပစ္စည်းများ
ကိုမြို့ကအဝေးအရပ်သို့စွန့်ပြစ်လေ၏။ ။

ထိုင်သူပြည်သားတို့သည်။ တကမ္ဘာပါတ်လှန်တရာသဖြ
င့်အလင်ဖြစ်ရအောင်။ ယမကသေမင်း သကဲ့သို့တရာဆုမ်း
ပြတ်ရာမယေမကွက် ထိုက်သက်သည်ကိုနှစ်ထားပြီလျှင်။
ထိုင်သူပြည်သား မူမတ်စစ်သူကြီး။ ရဲမက်တို့တညီတညွတ်
ရှိပြီ။ လပြည်နေ့နှိုက်။ လမင်းသည်။ နုက္ခတ်တာရာကျယ်အ
ပေါင်ခြံရန်လူက်တောက်ထွန်ဘိသက်သို့။ သိန်သန်မက
သော်ထိုင်သူပြည်သားတို့အကြီး စိပွါကိုဆောင်လိုသော်ငှါ။
မင်းကြင့်တရာဆယ်ပါနှင့်ညီး သဖြင့်မေတ္တာစိတ်ကိုပွား များ
လျက်။ ထိုင်သူပြည်သားတို့ကိုဆုမွန်သင်၍ရှေးမင်းတို့ကြ
င့်ထုန်းကြင့်နည်အထိုင်မမှာမရွှင်စေရ။ ကာလအရှည် သိရိ
ဟံသာဝတီမြို့ကိုစိုးစံတော်မူသည်။ ။ တနေ့သနိုက်ဂေါသာ
ရဒဗိုလ်⁽³¹⁾ တွင်။ ကောင်မြတ်သောဘိတ် သိတ်သွန်ခံသည်
သလွန် တော်တော်တက်စိတ်နှစ်လှန်ကြည်းလင်စွာစံနေတော်

(27) ရတနာဓာဏီ (28) ယောဓဓာဏီ (29) ဓာဏီ (30) ကေရာဇ

(31) သရဒဗိုလ်

မူသော်အခါ။ မှန်ကံသဖြင့်တရာသော်အမှုကိုစင်စာဆင်ချင်
တော်မူသည်။ သိရိဟံသာဝတီမြို့တော်မှာ။ ဘုရားသခင်ကို
ယ်စာတော်နှစ်လှန်ထား ပြီးလျှင်တိုင်သူပြည်သား တို့ကိုမှန်
သော်တရာသဖြင့်ဖြစ်စေလိုသည်လည်တကြောင်း။ မကျော်မ
ရွန်ရအောင်သတိပေသည် လည်တကြောင်း။ မှန်သော်တရာ
သဖြင့်ဖြစ်ရအောင်ခေါင်လောင်တခုကိုသွန်လုပ်ပြီး လျှင်လ
ယ်ဘော်မန်တပ်မှာဆွဲထားမည်။ တိုင်သူပြည်သားတို့ကိုမတ
ရာသည်အမှုကိုစီရင်လျှင်။

ခေါင်လောင်ကိုတိရမည်။ ခေါင်လောင်သံကိုကြားတော်
မူလျှင်။ တိုင်သူပြည်သား တို့ကိုမှန် သော်တရာသဖြင့်ဆုမ္မ
ပေးတော်မူမည်နှစ်လှန်တော်ထားပြီလျှင်။ ငွေစင်ချိန်ပိတ်သာ
တထောင်ထိုက်သည်ခေါင်လောင်တခုကိုသွန်လုပ်စေသည်။
။သက္ကရာဇ် ၇၈၄ခုဇွန်လ ၁၀ ရက်။ နှုတ်လဆန် ၁၂ ရက်
တနင်္ဂလာနေ့ဘဒ္ဒါဒိတီ။ ခုလက်။ နေ့တက်ဥတြုန်ပိတ်။ ကြာ
သပဒေတြင်။ ဗုဒ္ဓဟူနဝင်။ ထိုးအခါနှိုက်အေကရာဇ်မင်း
မြတ်သည်သွန်လုပ်ထားစေသည်ခေါင်လောင်အချိန် ၂၅၇၂။
ကိုသွန်လုပ်ပြီး လျှင်လယ် ဘော်မန်တပ်မှာဆွဲထားစေသည်။
ခေါင်လောင်သွန်လုပ်ပြီး လျှင်ဆွဲထားသည်နေ့မှစ၍တိုင်သူ
ပြည်သားတို့ကို။ မတရာသည်အမှုကိုစီရင်လျှင် ခေါင်လောင်
ကိုတိသည်။ ခေါင်လောင် သံကို အေကရာဇ်မင်းမြတ်အာ
ကြား တော်မူလျှင်။ မှန်ကံသော်တရာသဖြင့် မြတ်ဆိုးဆုမ္မ
စီးရင်သည်။ တိုင်သူပြည်သား တို့လည်။ စိတ်နှစ်လှန်တွေ
၍ရေနှင့်ဆေးဘိသကဲ့သို့စင်ကျယ်သည်။ အေကရာဇ်မင်းမြ
တ်သွန်လုပ်ထား သည်ခေါင်လောင်ကိုပျက်စီးရိုး ရှင်လျှင်။
နောင်မင်း အေကရာဇ်ထို့သိရိဟံသာဝတီ တိုင်ပြည်ကိုမင်ပြု
လုပ်၍တိုင်သူပြည်သား တို့အာမှန်သော်တရာသ ဖြင့်ရည်

ဣတောံ တာၤၤပြုပြင်ပါ။ ကျနု်ပ်သည်ခေါင်လေါင် ကိုသွန်လှ
 ပ်ထားရသည်။ ထိုင်သူပြည်သားတို့မှန်သော်တရာသဖြင့်မြ
 စ်ရသည်အကျိုး မှာနောင်နိဗ္ဗာနဒေသအရပ်သို့ရေဝံရပါစေ
 သော်။ နိဗ္ဗာန်မရမီအကြာလည်။ ဘဝထိုင်။ ဘဝထိုင်တရာ
 ကိုဆုမ္မရာလည်။ မှန်သော်တရာသဖြင့်ဆုမ္မရာပါစေသာ။ ။
 ။ငါသည်ကုသိုလ်တရာကောင်မြတ်သည်ကိုပြုရပြီ။

[On comparing the translation with the original text, through the aid of RATNA PAULA, we find that the first half of the inscription is left untranslated, either from its obscurity or from its not containing any thing of material import. Nevertheless as the document is incomplete without it we will endeavour to give the sense of this portion.

“ In the course of the *Bhattakambha* (*Bhadrakalpa* or golden age) the holy power of (the Buddhas) KUKUSANDA, KONAGAMANA, and KASYAPA, was manifested; but their religion expired with them. Afterwards the supreme power of the divine mahavira GAUTAMA appeared in the world. From the date of his *nibban* (*nirvāṇa*) 1275 years, (A. D. 732) and after that in this 913th* year, (A. D. 1645) a prince is ruling replete with virtue, intelligence, learning and eloquence, vigour and determination; of a family all virtuous, redressing his subjects' grievances, and distributing favors: he, desiring the opportunity of doing good, consulted with his chief minister DASABENYA and his four ministers in order to extend friendship, and favor, and charity, and to give employ to his subjects of town and country. DOBENYA† expounded that the anointed sovereign was one and supreme, that his city contained the five forces, *Dasabala*, *Nyanbala*, *Káyabala*, *Tejabala*, and *Sutabala*, which being explained mean, *Dasabala* the rich, possessed of gold, silver, jewels, &c.; *Nyanbala*, the rája himself replete with supremacy, power, command, skill, and majesty; *Káyabala*, those having the eighteen sciences, and the warrior class; *Tejabala*, priests and the wise; and *Sutabala* (*Srutabala*), the intelligent inhabitants of town and country. He (the rája) expelled his brother BYANO Yo, why?—because he did not walk in the way of the respectable: why was his brother put out of the throne of *Pi*? (*Prome*), because he did not honor or favor his nobles and his generals, therefore was he expelled. DUSSIDAT (TUSHADATTA) commander of the army, with the

* The passage is obscure and the second date 1913—We suppose the 1 to be an accidental stroke the sense becomes as above. † DASABENYA?

[illegible]

J. L. x in sup. de l'ell.

officers and soldiers turned away their minds, and many men of *Pi* shook off their allegiance. The supreme king gave to his brother *Adánin* the place where he resides, and to his other brothers, their residences, *Yanchesí*, *Calhat*, *Talvi*, and *Labhá*, four towns, to receive the revenue thereof; to the ministers *DAJAMARAH* and *ADACHA*, the rája had given *Kolya*. These two were ministers of the right side, they had been guilty of beating, imprisoning and other cruelty and extortion to the citizens and country people.....and the people were ruined.....”

Then follows the translation as below, but *Ketuvati* appears to be the *Páli* name of the town *Pugahu*, not the province in which it is placed: it is spelt *Ketumati* (the possessed of the royal banner) in the former *Ràmri* inscription printed in the Journal, vol. III. p. 209.—ED.]

Translation.

“At a propitious moment when the constellation *Nekhat** was in the ascendant, on Tuesday the third day of the waning of the moon Tagoo (April) the four divisions of royal troops, consisting of elephants, infantry, horsemen and charioteers, marched out of the city of *Pagahm* in the district of *Gaytoowuddee*, and arrived in the country of *Threehenthawuddee* (*Pegu*) in fifteen days, when a camp was formed.

Then the king of *Pegu*, collected his grand royal army, and having set it in order, he marched to meet the enemy, and give battle, but being apprehensive of defeat, he dispatched a letter to the king of *Mautamma* (*Martaban*) calling upon him for aid. The king of *Martaban* thereupon collected his nobles, generals, and all his bold and courageous soldiers, and marched to his assistance. When he arrived in the kingdom of *Pegu*, he mounted the elephant *Airawon*, and attacked the armies of *Pagahm* with such firmness and resolution, that it was impossible for them to withstand the shock, and they were completely routed.

The king of *Martaban* with his nobles, generals and victorious army returning were met by the king of *Pegu*, mounted upon the elephant *Vopantatha†*, and surrounded by the chiefs, and the variously armed divisions of his royal forces. The king of *Martaban* distrusting him of *Pegu*, and seeing himself surrounded by his army, began to tremble for

* The word *nekhat* (*nakshatra*) signifies lunar mansion; there is therefore some mistake here. The words are *didí nekhat*, which may be *tritiya nakshatra*, while the 3rd mansion was rising, to denote the hour of the day.—ED.

† *Uposatha*, the name of a fabulous elephant of supernatural strength, the other animal is called *airávatí*, the name of *INDRA*'s elephant.

his life, he therefore vowed that should he be delivered from the ruin that threatened him, he would become a charitable donor to religious establishments; then having mounted his elephant *Airawon*, he assembled his generals, and set his troops in battle order:—the two armies being now engaged, the king of *Pegu* riding upon his elephant *Vopantatha*, was charged by the monarch of *Martaban*, seated upon the elephant *Airawon*; the tusks of the former being broken in the encounter, he was unable to sustain the fight, but turned and fled, upon which the army of *Pegu* was defeated and the nobles and generals destroyed.

The king of *Martaban* having proclaimed his victory, took possession of *Threeenthawuddee* and the four *Tannees** () which it contained. These four *Tannees* were called *Yadzatannee*, *Bydzatannee*, *Yattatannee* and *Yougatannee*; among them *Yadzatannee* was the most excellent: of the highest order, and possessed of power and greatness. *Bydzatannee* had superior wisdom and knowledge; *Yattatannee* had the seven kinds of precious gems, and *Yougatannee* was careless of life and excelled in bravery. Having taken *Threeenthawuddee*, and banished the evil doers, he ruled over the country in peace. The nobles, chiefs and military officers represented that the property of the temples, of the libraries, and of the monasteries, was not in accordance with the established system, that like a hot iron it consumed every thing near it, and that it should be conveyed out of the country: it was accordingly scattered abroad.

The inhabitants of the whole earth enjoyed the light of his wise administration of the laws. In like manner as the stars are illumined by the brightness of the full moon, so the king desired to see his nobles and warriors, and his subjects, in number more than a hundred thousand, increase their riches in proportion to his own prosperity. The king by means of his ten royal virtues, increased in benevolence; he instructed his people according to the ancient rules and customs†, and would not suffer them to act wickedly. He governed *Threeenthawuddee*, after the manner of former times. Sometimes during the season *Ganthayedda*, when the king reclined upon the royal couch‡ and pleasure filled his breast, he reflected upon the just laws of the world, and thought it would be right to erect a statue of the deity in the

* *Tonnee*, is the Sanskrit *dhānī*, the abode of, and these four names are epithets or descriptions of the Pegu kingdom, not separate provinces.

† The text has, ‘like *Yama* he repressed the wicked.’ And further on ‘like *Chandra* he shone among the planets of his court.’

‡ The text has, ‘in the cool season or *ritu*.’

country of *Pegu*, and establish for the people a true system of justice that they may neither fear nor hate him, but bear him in respectful remembrance, and for this purpose he determined to cast a bell and place it beneath a double roof*, that the people might give notice of their wrongs by striking it, the sound of which reaching his ears, he would be enabled to redress their wrongs. (He therefore) expended a thousand vis of pure silver in the construction of this bell.

On Monday, the twelfth day of the waxing of the moon of July (Phalgun or February—March), three hours and a half after the rising of the ninth sign of the zodiac, in the year 984†, (agreeing with A. D. 1622,) the king caused this bell to be cast, its weight being 8254 vis‡: it was placed beneath a double roof. From the time of its being so made and suspended the people have struck it upon the occurrence of any injustice, the sound of which having been heard by him, he has directed justice to be properly administered. The people of the country perceiving (his benevolence) felt as if washed with water (abuses abolished).

If this bell be destroyed let future monarchs repair it; to this end I have made it, that the people might obtain justice and that I might obtain Nibban, and all ages till that time the laws might be duly administered§. This work of merit I have done."

II.—*Extracts from the Tóhfut ul Kíram*||, and the *Chach Náme*h, translated by Lieutenant T. POSTANS.

[Continued from page 104.]

As the following translations from the Persian manuscripts (*Tóhfut ul Kíram*, and 2nd *Chach Nameh*) afford some information, respecting the early history of *Sindh* previous to, as well as its conquest

* *Mandap*, a kind of belfry or temple.

† There is some confusion, two dates being apparently given, one *Phalgun*, the other July, one is doubtless the rising of the lunar mansion for the fortunate hour.—ED.

‡ This weight must be read rather 825 vis 4 tikals, which at 140 tolas will be about 2750 pounds avoirdupois.—Captain W. made the weight by estimation of the cubic contents 3472 lbs.

§ RATNA PAULA understands this,—and in all my transmigrations before attaining nibban, may I duly exercise justice, &c.

|| (*Tohfut ul Kíram*—written *Tohfut ul Khwân* in the former extract from indistinctness in the MS.—ED.)

by, the Muhammadans under the Khalif WALLID ;—they may perhaps be considered of some interest.

Description of Sindh.

Sindh is one of the sixty-one divisions of the world, situated in the five first climates, belonging chiefly to the second, and is in the same region as the holy cities of *Mecca* and *Medina*. The river of *Sindh* rises in the mountains of *Cashmere* ; another joins it from the mountains of *Cabul*, in *Múltán* it is met by the river *Sihun*, and thus proceeds to the sea. Its water is clear and very cool, in the language of the country it is called *Mihran*. All the rivers of *Sindh* flow towards the south, where they empty themselves into the sea, such as the waters of *Pilob*, *Chínab*, *Lahore*, *Sultanpur*, and *Bajíwarrah*. The climate of *Sindh* is delightful, its mornings and evenings invariably cool ; the country to the north hotter than that to the south, its inhabitants intelligent, and of large stature.

Sindh is so called from SINDH, the brother of HINDH, the son of NOAH, whose descendants for many generations ruled in that country. From these also sprang numerous tribes, such as the *Nabete*, the men of *Tak*, and the tribe of *Nomíd* who governed and possessed it by turns. No record remains of these, and its history commences with the last of the dynasty of the *Rahís* (or rájas), whose capital city and seat of government was *Alor*. *Alor* was a large, flourishing, and populous city, situated on the bank of the river *Mihran*, possessing magnificent edifices, highly cultivated gardens, producing every description of tree and fruit : “ travellers found all their wants supplied.”

The territory of the rája of *Sindh* extended to the east, as far as *Cashmere* and *Kunnúj* ; west, to *Mihran* and the sea ; south, to the territories of the ports of *Surat* and *Deo*, and to the north, to *Kandahar*, *Secústán*, and the mountains of *Suliman* and *Kynakan*.

At the time this history commences*, RAHÍ SAHIR SIN, BIN SAHIRSÍ, governed the country of *Sindh* ; he was a good and just man, whose authority being universally acknowledged, extended to the territories abovementioned. The peace which for a long period had reigned in all parts of his dominions, was suddenly interrupted by an incursion of a large army from *Persia*, under the king NÍM ROZ, into *Mukran* and *Kích*, which countries that prince laid waste, and taking with him many prisoners, returned to *Persia*. When the news of this foray reached SAHIR SIN, he was highly incensed, and having prepared a large force, marched to *Mukran*, whence he dispatched mes-

* That is, about the year 2 of the Hejira.

sengers, offering battle to NÍ'M ROZ ; this latter was also prepared, and advanced with all speed. A desperate conflict ensued, lasting from morning until mid-day, in which NÍ'M ROZ was victorious, SAHIR SÍN being killed during his retreat, by an arrow in the neck. The victorious army of NÍ'M ROZ, having occupied themselves in plunder, returned to their own country, and the remnant of the Sindhian forces, returned to *Alor*, where, on their arrival, they placed SAHIR, the son of SAHIR SÍN, upon the throne, with great festivity and rejoicing.

* *Rahí*, (or rája) SAHÍ following the example of his father, governed the country of *Sindh* with justice and moderation, and security and peace were throughout his dominions. In his minister RÁM RAI', the rája possessed a man fully competent to the discharge of all the duties of government, and being himself much inclined to luxury, and the sensual enjoyments of his harem, he entrusted the management of all his state affairs, to RÁM RAI' ; nor in this man's hands was power abused, but the affairs of the country prospered, and the subjects were satisfied. On one occasion RÁM RAI' convened a large assembly of brahmins and other learned men ; from amongst the former, a young man of pleasing exterior, and great eloquence, by name CHACH, particularly attracted the attention of the minister, who asked him his name, and whence he came, he replied, " I am CHACH, the son of SILAH," a brahmin well known in the city of *Alor*. This introduction was the prelude to a great friendship, and RÁM RAI' discovering the extraordinary talents of CHACH, (who was wonderfully learned in all the learning of the Hindus) made him his assistant and confidential adviser. In a short time the brahmin CHACH became thoroughly acquainted with all the affairs of government, and was entrusted by RÁM RAI' with the sole direction and management of the country ; the people looked upon the brahmin CHACH, as the representative of the rája, and RÁM RAI's influence decreased.

It happened that RÁM RAI' fell sick, and during his illness, letters arrived from a distant part of the dominions, which required the rája's immediate attention. Messages were sent to the king, who, too indolent to leave his harem, desired that the letters might be brought to his presence, where from behind a curtain, he would dictate a reply. His attendants represented that the bearer was a brahmin, whose sacred office precluded the necessity of a veil between him and the inmates of the harem. CHACH read and explained the dispatches, as well as dictated the replies, and by these and other acts, so completely gained the

* (From this to the end is from the 2nd *Chach Nameh*.)

confidence and applause of the rája, that he was invested with a dress of honor, and raised to the highest dignity of the state. It happened during the first interview with the rája, that the rání saw the brahmin CHACH, and immediately became desperately enamoured of his person; nor did she hesitate to make him acquainted with her passion. CHACH's honor, however, was proof against her solicitations, and he replied, "I am a brahmin, and cannot be guilty of treachery by violating the harem of the king, whose servant I am; moreover the safety of myself and family would be compromised by such a crime." The rání's passion was too strong to be overcome, and she became melancholy, refusing rest and food. At length the state of affairs became public, and the king was informed that CHACH was plotting with the rání, to disgrace him in the eyes of his subjects: the rája's confidence however in CHACH was not shaken by these reports, to which he gave no credit. Shortly after the rája became sick unto death, and the rání seeing her husband's end approaching, called for CHACH, and told him she had devised a plan, whereby he might succeed to the throne of *Sindh*, as well as gratify her desires after the death of the rája. To this end, she issued a proclamation in the king's name, convening a general assembly of all classes in the city of *Alor*. When the people were assembled, it was announced that the king's health not permitting his attendance, he had delegated all authority to the brahmin CHACH, whom, during the king's illness, the subjects were implicitly to obey. CHACH was moreover invested with the royal signet, and duly acknowledged by the people as the representative of the rája. In a few days the rahí SAHI' died, and the rání immediately instigated CHACH to seize the throne, saying, "Now is the time for the accomplishment of my wishes, and the destruction of your enemies." CHACH replied, "I bow to your will." The rání reported, that the rája had no children, but that other members of the family would doubtless assert their claims to the government of the country; she therefore devised the following plot for their destruction. As the fact of the king's death had been kept a profound secret, the relations were invited to the palace, under the pretence that the rája finding himself at the point of death, was anxious to make his will, and settle the succession, to which end it was necessary, that all the members of his family should attend. These people thus inveigled into the palace, were imprisoned and afterwards murdered. The body of the rája was burnt, and the brahmin CHACH proclaimed king of the country of *Sindh* and its dependencies without opposition.

Account of the government of CHACH and his marriage with the rání.

When by the consent of the nobles, CHACH was seated on the throne, he opened the doors of the treasury, and by bestowing largesses on all ranks, made them subservient to his authority, increased the pay of the soldiers, decreased the taxes, founded cities, cultivated all parts of his dominions ; and married the rání according to the rites of his religion. When these circumstances were generally known throughout the country, other relatives of the late king, came from *Jaudpúr* and *Chitúr*, to assert their claims to the throne, and having collected a large army, prepared to dispute their rights. The commander of these forces was RANA MIHRUT CHITTO'RI', who, when he arrived in the neighbourhood of *Jaisulmír*, wrote to CHACH saying, " You are a brahmin ; the affairs of government cannot be carried on by you ; you cannot fight : it is better that you seek retirement, and not rush on destruction."

CHACH took this letter to the rání, told her the contents of it, and said, " a powerful enemy is at hand, what do you counsel ?" The rání said, battle is better understood by men than women, if you are not a man, give me your clothes and take mine, and I will go to battle with the enemy." CHACH was ashamed : the rání moreover advised CHACH saying, " You have abundance of wealth, use it liberally amongst your subjects, so that they become attached and obedient to you." CHACH again opened the doors of the treasury, and after distributing large sums of money, collected his force, and prepared to meet the enemy. Suddenly RANA MIHRUT arrived in the neighbourhood of *Alor*, on learning which, CHACH came out to meet him. When both armies were drawn up for battle, and about to begin the contest, RANA MIHRUT cried out " Oh CHACH ! why should these men destroy each other. We are the principals in this quarrel, let us then decide the matter by single combat and on foot ; if I fall, you shall have all I possess, and if I am victorious, I will rule your country." To this CHACH agreed, and the two chiefs advanced in front of their respective forces. CHACH alighted from his horse, which he ordered his servant to bring slowly after him ; but when the two chiefs approached each other, and were about to begin the combat, the servant of CHACH at a preconcerted signal, brought his horse to his master, who quickly mounting and drawing his sword, with one blow killed RANA MIHRUT, whose army seeing the fall of their leader, took to flight. CHACH pursuing them, killed the greater part, the rest fled ; he did not quit the scene of action

until the next day, when the people of *Alor* ornamented their bazars and houses, and CHACH with great pomp returned to *Alor*, and became a powerful king. In that year he made a tour of his dominions with a large army*, and was much satisfied with the state of the country. He had two sons, one named DÁHIR the other DIHIR; he had also a daughter. After some years CHACH died, and his eldest son (DÁHIR), succeeded to the throne: CHACH reigned 40 years.

Account of the government of the son of CHACH, on the throne of his father.

By the consent of the nobles and subjects, DÁHIR the eldest son of CHACH, was placed upon the throne of his father; he was just and merciful, bestowed gifts on the soldiers, and was kind to all classes of his subjects. After DÁHIR had reigned one year, he went towards the country of *Shirkí*, to the government of which province he appointed a deputy; from thence he proceeded to *Chittore* and *Burhamanabad*, in which latter he sojourned some days, appointing his brother DIHIR its ruler. After a period of six months, occupied in travelling through various parts of his dominions, he concluded a treaty of peace with the governor of *Kinnan*, and returned to his own capital *Alor*. Here he was received with every demonstration of respect and attachment, the people of the city coming out to meet him. DIHIR was inclined to put much faith in the predictions of astrologers, and as he had settled all the affairs of the country under his rule, he consulted those learned men, as to the future welfare of himself and his dominions. They declared, that they had consulted the stars and that neither in the horoscope of the king DÁHIR, or his brother DIHIR, could they discern any malignant influence; but in that of their sister it was ordained, that she should marry, and that her husband should occupy the throne of *Sindh*; and rule the dominions subject thereto.

This intelligence sorely perplexed DÁHIR, who fancied he saw in this prediction the loss of his sovereignty and power. For some time however, he occupied himself with state affairs, but the prediction of the astrologers still perplexing him, he again summoned them, and again required them to foretel his fate. After some delay, they returned him the same answer as before, whereupon DÁHIR called together his father's ministers, and all the servants of the state, and sought their counsel on the occasion, telling them that as he could not bring himself to the

* An account of this expedition has been before given, from the original "*Chach Námeḥ*." See January No. of the Society's Journal for the present year.

sacrifice of power and empire, he intended, to fulfil the predictions of the astrologers, by marrying his own sister. To this measure his council expressed the utmost abhorrence, representing, that it would not only bring reproach on the country, and violate the laws of the religion they professed; but, that so unnatural a proceeding, would not fail to produce insurrections and disturbances throughout his dominions. These arguments however were of no avail to stifle the superstitious fears of the rája, who after some days, was married in the presence of his nobles, and according to the forms of the Hindu religion, to his own sister. When the news of this marriage reached *Burhamanabad*, *DIHIR* was greatly incensed at his brother's conduct, and wrote to him in terms of expostulation, entreating him to repair if possible, the disgrace he had brought upon the memory of their father *CHACH*, by absolving himself from so unholy a connection. The brother's arguments were of no avail, *DA'HIR* replying, "That he had but fulfilled his destiny, from which it was vain to attempt to flee." In short, *DIHIR* enraged with his brother, collected a force and marched to *Alor* to punish him. *DA'HIR* prepared to oppose his brother, and for this purpose encamped at some distance from the city; awaiting his arrival. In the meanwhile, *DIHIR* marching by another route, reached the gates of *Alor*, thinking in his brother's absence to make an easy capture of the place; but the walls were manned, and the defence so vigorous, that *DIHIR* was driven to the westward of the city. *DA'HIR*, learning the arrival of his brother's forces, threw himself with his army into *Alor*. The next day he proclaimed a general feast, and sent some of his confidential men, with presents and viands, to his brother *DIHIR*, with a view to pacify his wrath, and bring about a reconciliation; but *DIHIR* would neither accept them, or listen to overtures of peace. These messengers were followed by the mother of the princes, who used her influence to reconcile the younger to his brother's conduct, telling him, that beyond the mere forms of marriage with his sister, *DA'HIR* had committed no sin; moreover, that this was understood by all classes of the subjects, and every where accepted, as a sufficient justification of the rája's proceedings. The mother's arguments prevailed, and the following day was appointed for an interview; and public reconciliation between the princes. The next day the rája *DA'HIR* came out with a large retinue to meet his brother, who alighting from his horse, advanced and kissed the rája's foot, in token of submission to his authority. *DA'HIR* also, with much display of affection, alighted, embraced and kissed his brother, and taking him by the hand, led him to his tent, where they remained for some time, *DA'HIR* relating all that had occurred. In the evening *DIHIR* returned

to his encampment, but was shortly after attacked with small-pox, from the violence of which malady he died after an illness of four days. DĀHIR'S sorrow on hearing of the death of his brother was very great, and after dispatching messengers to ascertain the truth of the report, he himself with his head and feet bare, proceeded to his brother's residence; he helped to bear the body to the pile, and assisted in the funeral ceremonies. DĀHIR afterwards proceeded to *Burhamanabad*, where he appointed a governor in the place of his deceased brother: he then returned to *Alor*, and for some years governed the country in peace and prosperity.

Reason of sending the army of the faithful to Sindh.

In the history of *Sindh* it is related, that during the Khalifat of ABDUL MALLIK, the king of *Sirundip* (*Ceylon*), sent some of his servants with presents of female slaves and other merchandize, to the Khalif at *Bagdad*. The boat which conveyed these people was attacked near the port of *Dibul*, (which to this day is called *Tattah* and *Lahoury*) by a band of robbers, who killed the greater part of the messengers, seized the property, and made many of the people prisoners: some few escaped, and reported what had occurred to the Khalif.

The Khalif was incensed at the outrages, and immediately ordered a force to be prepared to attack *Sindh*. In the meantime the Khalif died, and the marching of this force was delayed. After the death of ABDUL MALLIK, his son WALLI'D (BIN ABDUL MALLIK) succeeded to the throne, and HIJJAJ BIN YUSUF was to settle the affairs of the countries of *Uraķin*, *Kirman*, *Khorassan*, and *Siostan*; he also made himself acquainted with the state of affairs in *Sindh*, and wrote to the Khalif, representing, that the servants of the king of *Sirundip*, who had been dispatched with presents to his father, were still prisoners in the fort of *Dibul*, that it had been the intention of the former Khalif, to punish the committers of the outrage, and release these people; but that his death interfered to prevent the measure. HIJJAJ urged the Khalif to give the necessary orders for the dispatch of a force, and as he considered it an office of some importance, wrote himself to the rāja of *Sindh*, (DĀHIR BIN CHACH,) stating what had occurred, and demanding an explanation. This letter HIJJAJ entrusted to two messengers directing them at the same time to act as spies, and give him every information respecting the state of the country of *Sindh*. When HIJJAJ'S letter reached DĀHIR, he received it with all respect, but replied, that as the outrage complained of had been committed by a band of lawless people, over whom he had no control; he had neither the power to

punish them, or return the property which had been seized. This reply was conveyed to HIJAJ, with every particular respecting the country, and at the same time the necessary orders were issued from the seat of authority at *Bagdad*, for assembling a large force to subdue *Sindh*. The command of this army was entrusted to MAHOMMAD BIN KASSIM, a cousin of the Khalifs; the expenses of its equipment were directed to be paid from the public treasury, under the direction of HIJAJ BIN YUSUF. In one month HIJAJ collected 15,000 men (of these 6000 were horse, 6000 mounted on camels, and 3000 infantry), and marched them upon *Sindh*, sending with them 30,000 dinars for expenses. The marching of this army took place in the year 92 of the Hejira. God is great.

Account of the conquest of Sindh by MAHOMMED BIN KASSIM, and of the death of DÁHIR.

KAZÍ ISMAEL BIN ALI, BIN MAHOMMED BIN MU'SA, BIN THAI' has related, that during the time of the reign of WALLÍ'D BIN ABDU'L MULK, HIJAJ BIN YUSUF SU'KUFIE, sent MAHOMMED BIN HARU'W from *Bagdad* to *Mukran*, and he conquered *Mukran*, and the countries on the bank of the river *Kulzum*. In the year 92 Hejira, MAHOMMED BIN KASSIM, cousin of the Khalif's, and son-in-law of HIJAJ BIN YUSUF, with the army of the faithful, marched to attack *Sindh*, being for some time employed in *Kerman*, in preparing his forces, passing through *Kich* and *Mukran*, he marched towards *Sindh*. When DÁHIR heard of the arrival of the army of the faithful, he prepared to advance to *Mukran* and attack them; the great men of the state however dissuaded him from this, representing, that BIN KASSIM's army was composed of Arabs, who were instigated by revenge and hatred of the Hindu religion to conquer the country; that it was necessary to be cautious, and if possible to satisfy BIN KASSIM with overtures of tribute, but in case of such overtures not being accepted, then said they, "Let us make some other arrangement, and having collected a great army with the assistance of the treasury of the state; let us preserve the country from the calamity with which it is threatened." RAHI' DÁHIR approved of this advice, and delayed his march until the army of the faithful had arrived at the fort of *Neirunkote*, which they besieged, and after much fighting captured, killing most of the infidels: the rest fled to the capital *Alor*. Elated with this success, BIN KASSIM marched upon *Tattah*, which place he soon reduced, releasing the prisoners who were there, and sending them to HIJAJ; he then directed his steps towards the neighbourhood of *Secústan*. The

account of the battle which there took place, exceeds the power of tongue to relate ; in two encounters the infidels were victorious ; the third time victory was declared in favour of the faithful, and the infidels fled. MAHOMMED BIN KASSIM having conquered the fort of *Secústan*, settled the affairs of the surrounding country, and sent a deputy to *Tattah* putting the affairs of that place and *Neirunkote* into his hands.

It is related, that when MAHOMMED BIN KASSIM, arrived in the neighbourhood of *Secústan*, the men of *Chuneh* sent a spy into his camp, who arrived during the time of the calling to prayers of the army of the believers. On that occasion, the Mussulmen were formed in lines for prayers, and MAHOMMED BIN KASSIM acted as the preacher, the faithful being collected round him, attending to his discourse. The spy beheld this, and reported to the men of *Chuneh*, saying, " I swear by God, that that tribe are so unanimous, that whatever enterprise they undertake, there can be little doubt but they will conclude it." He also told them how attentive and obedient they were to the advice of MAHOMMED BIN KASSIM. On hearing these words, a desire arose in the minds of the men of *Chuneh*, and they enlisted under the banners of Islamism : they were the first inhabitants of *Sindh*, who became Muhammadans."

After the arrangement of affairs in *Secústan*, it was debated in the army of the faithful, whether it should first attack *Brahmanabad*, or the capital of the country *Alor* ; but BIN KASSIM decided in favour of the latter, for said he, " let us first reduce the capital and dethrone the king, the other places will then fall into our hands." This was agreed upon, and having passed the river opposite *Talhatty*, the army of the faithful proceeded to *Alor*. DÁHIR on hearing this, prepared for battle. The astrologers however told him that they had consulted the stars, and learnt that his horoscope boded him bad fortune ; whilst the star of the army of the Muhammadans, was in the ascendant. On this account, they counselled him not to depart from the city, but to entrench himself within its walls. DÁHIR therefore sent a countless army from the city, who arrived upon the banks of the waters of *Gunjeri*, the next day, BIN KASSIM in the place called *Duffian*, appointed ABDULLAH BIN ALI' SU'KUFÍ, to attack the enemy. He accordingly arrived opposite the army of the infidels, in the place called *Kullah Gunjeri*, on the bank of the river. They met and fought furiously ; the infidels were worsted, and many of them killed, and some say, that the defeat of the infidels on that day, was ascribed to an accident which befel their commander, whose horse threw him, and galloping amongst the ranks of the soldiers, led them to believe that their chief was killed, whereupon they fled. In short, ABDULLAH returned to BIN KASSIM victorious, and

BIN KASSIM marching from that place arrived at *Alor* and laid seige to it. DÁHIR was thus surrounded in his own city. BIN KASSIM erected a catapult, and threw fireworks (which he had seen in use amongst the people of *Persia* and *Rûm*), into the city. Both armies, the besieged and besiegers, fought desperately, so much so that in ten days, seven battles or engagements took place, in every one of which the Muhammadans were victorious; and on the day of Thursday the 10th of the happy month of *Ramzan*, in the year 93 *Hejira*, the king DÁHIR, instigated by rage and revenge, prepared his war elephants, and with a large force came out from the city of *Alor*, to do battle for his crown and kingdom. They say he had 1000 men with armour, and 30,000 infantry in line, in advance of his army. DÁHIR himself, seated in the howdah of an elephant, the cover of which was highly ornamented, went to the right and left animating and encouraging his troops. On that day two beautiful female slaves were seated in the rája's howdah, one administered wine, and the other paun to him. The armies fought from morn until night; BIN KASSIM with a division of his army, fought himself as a common soldier on the plain, overthrowing all to whom he was opposed, whilst others of the faithful threw fireworks into that part of the enemy's army occupied by the elephants. In this way the howdahs took fire, and the beasts becoming infuriated, rushed through the ranks of their own troops, and fled to the water, into which they plunged themselves. The banks of the river were muddy, and DÁHIR's elephant sank in the mud, at the same time, an arrow from the Muhammadan army struck the rája DA'HIR in the throat, and killed him: this occurred at the time of the setting of the sun, and the brahmins who were seated behind DA'HIR's howdah, took his dead body, and burying it in the mud, went towards the city. DA'HIR reigned 33 years.

Now the Muhammadans had so cautiously guarded all the approaches to *Alor*, that a bird could not have flown past, and these brahmins became prisoners in the hands of a general named KEISS. KEISS was about to kill them, but they asked for quarter, relating to him the circumstances of the rája DA'HIR's death: on this KEISS spared their lives. In the meantime, some soldiers having captured the two female slaves who were with DA'HIR, and brought them to BIN KASSIM; these last also reported the death of the rája. On learning this, BIN KASSIM proclaimed to his troops, "The death of DA'HIR is reported, but as yet it is not certain, let not the faithful therefore withdraw their hands from battle, for the sake of plunder, lest some unexpected enemy come upon them." When KEISS heard this proclamation, he brought the brahmins whom he had captured to BIN KASSIM, who when he heard their report

which confirmed that of the female slaves was overjoyed, and the army of the faithful rent the sky with acclamations. BIN KASSIM accompanied by the brahmins and confidential servants, then proceeded to where the body of DA'HIR was buried; they took it from the mud, and cutting off the head, stuck it on a spear. They shewed it first to the female slaves, who knew and recognised it. BIN KASSIM then ordered all his troops to come round the fort, and occupy themselves with thanksgiving and prayers to God for the victory. That evening was the evening of Friday, and they prayed till morning. When the day dawned KASSIM ordered that they should place the head of DA'HIR with the female slaves upon the gates of the fort, so that all men of the city might see the same; by these people DA'HIR's name was execrated, for going to battle attended by his concubines. When the news of DA'HIR's death reached his wife LADI', she was overwhelmed with grief, and came to the gate where the slaves were, asking them the circumstances of the death of DA'HIR. The women weeping, shewed her the rája's head, on seeing which she threw herself from the walls of the fort, and a noise and tumult arose amongst the men of the city, who being helpless, opened the gates of the citadel, and on Friday the 11th of the month *Ramzan*, A. H. 93, the Muhammadan army entered the fort of *Alor*, A. D. 711, taking possession of the treasury, and property of DA'HIR which they entrusted to the charge of KEISS. They turned the temples of the idol worshippers (Hindus) into places of prayer, destroyed the idols, erecting pulpits in their stead. At the beginning of the month of *Shuwal*, BIN KASSIM took an account of all the treasure, booty, property and prisoners, and sent them with 200 horse in charge of KEISS, by the road of *Kích* and *Mukran*, to *Bagdad*, and HIJJAJ being acquainted with those circumstances, was much pleased: after that he sent all the plunder in charge of KEISS to the Khalif at *Sham*. When KEISS arrived at *Sham*, he placed the crown, treasure, and all the property of DA'HIR, at the feet of the Khalif, relating all that had occurred. The Khalif was pleased, and bestowed presents and honors, upon the messenger of these good tidings, and at the same time, issued a royal mandate to the army, saying, the army of the faithful must not be satisfied with the conquest of *Sindh*, but must proceed to the eastward immediately, and all the country which belonged to DA'HIR, must be subdued.

When this order reached BIN KASSIM, he conquered *Brahmanabad**, and settled the tribute it should pay, and the brahmins who

* This city was next in size to the capital *Alor*, and was known also by the names *Báhmāna* or *Bhamāna*, situated in or near the *Púran*. For an account

were before employed to collect the revenue were still retained in their several capacities, and the men of *Summah*, which were in the neighbourhood of *Mihurí*, having collected, came with music and singing to pay homage to BIN KASSIM*. He asked who they were; the brahmins replied, "These are inhabitants of the desert, whose custom it is thus to shew respect to their governor." BIN KASSIM settled their tribute, and dismissed them. The men of *Lohana*, *Suhuteh*, *Judrúnai*, *Haleh* and *Kúríjeh*, directed by ALI BIN MAHOMMED BIN ABDU'L RUHNAI' SULLATI, with head and feet bare, came to offer service to BIN KASSIM, craving pardon, and seeking protection, which BIN KASSIM promised them, directing, that their future service should be to act as guards to such followers of the prophet, as should travel to and from *Bagdad* and *Alor*.

Story of the death of BIN KASSIM.

From amongst the prisoners captured at *Alor*, two daughters of the king DA'HIR, were sent in charge of MAHOMMED BIN ALLI INTU-MANI, with some Habshís to *Bagdad*; the Khalif sent these two women to his harem, consigning them to the care of his people until their grief should be assuaged, so that when they were relieved from the distress of travel, they should be ready for his (the Khalif's) service. After two months, these women were brought to the presence of the Khalif, an interpreter being present; when they raised the veils from their faces, the Khalif was smitten with their beauty, and asked their names; one was called GIRPUL DEO, the other SU'RUIJ DEO. The Khalif ordered one to his own bed; she said, "Oh my lord, I am not fit for the king's service, we have both for three days been with BIN KASSIM, who after dishonouring us, sent us here." The interpreters explained this to the king. The king was highly incensed, and directed that his servants should seize BIN KASSIM, sew him up in a cow-hide, and send him to *Sham*; afterwards to enforce this order, he wrote in the margin of the letter with his own hand directing that in nowise should it be disobeyed. At that time BIN KASSIM was at *Hudapúr*, and when he received the order of the Khalif, after reading it, he directed the messengers to do as they were directed. They obeyed the order, covering BIN KASSIM with a raw cow-hide: after enduring the torture for 3 days he died. They then put his body into a box, and conveyed it

of this as well as other cities and divisions of the ancient country of *Sindh* see Art. on *Sindh* by Captain McMURDO, Journ. Royal As. Soc. No. II. November, 1834.

* Belúchi (?) tribes who paid homage to BIN KASSIM.

to the Khalif. When they reached *Sham* they shewed the box to the king, who ordered it into the seraglio, opening it in the presence of the daughters of DA'HIR, to whom he said, "Behold how absolute is my power, and how I treat such servants as BIN KASSIM." The women replied, "Oh king, just men ought not to be precipitate in great affairs, or be too hasty to act, either upon the representation of friends or foes." The king asked their meaning, they said, "We made this accusation against BIN KASSIM because of the hatred we bore him, seeing that he slew our father, and through him we lost all our property and possessions, and became exiles from our own country; but BIN KASSIM was like a father and brother to us, he looked not on us for any bad purpose, but when our object was revenge for the blood of our father, we accused him of this treachery: this end attained do with us as you will." The Khalif on hearing this, suffered great remorse: he ordered the two women to be tied to horses, and dragged to death, and they buried BIN KASSIM in the burial place at *Damascus*.

III — *Note of a visit to the Nítí pass of the grand Himálayan chain.*

By J. H. BATTEN, Esq. C. S.

[Extracted from a letter to, and communicated by, Captain P. T. CAUTLEY.]

Joshináth, 22nd Dec. 1837.

Having just returned from the *Spití* pass, I think that an account of my expedition thither, however brief, will not fail to interest one whom I look upon, now that the admirable FALCONER is far away absent from India Proper, as the chief scientific authority of the Upper Provinces. You are entitled to the first tribute of information gleaned in my trip, because you have been ever ready to give the benefit of your instruction to your *pupils*; and secondly, because FALCONER and yourself have rendered the geological *School* of *Seháránpur* illustrious, by the well-deserved medals which you have won for its *professors*!

Above the junction of the *Dhauli* and *Alaknanda* branches of the Ganges at *Vishnúprág* a mile below *this* place, (which is the chief seat of the BADRINA'TH RÁWAL and his priests,) the glen of the *Dhauli* continues for 35 miles up to *Nítí* village. Near *Joshináth* and the whole way to the junction of the *Kíní* river, which comes from the north-west face of *Nandi Dévi*, this glen is characterised by the most exquisite scenery; the southern mountains sloping down to the river covered by forests of *Quercus semicarpifolia*, *Rosa webbiana* (wild red rose), yew,

horse chesnut, alder, poplars and elms, interspersed with pretty villages of which the chief ornament, at this season, are the fields of red *Marsa*, (the *Battú* of *Bissehr*) a species of amaranth, while the high craggy northern mountains and peaks, that form the separating ridge between *Badrináth* and *Nití*, come down to the *Dhauli* in the most terrific precipices. Above the *Rintí*, both sides of the glen assume the regular *Himálayan* features of wild sublimity, although villages are every where seen perched up on seemingly inaccessible heights. The river remains broad and deep, though often broken into cataracts. The road (a fine new one made by myself this year) is carried on *either* side of the river as most easy, and is crossed by fine Sangas. We soon enter *Bhote*; and flocks upon flocks of sheep carrying loads of grain, or salt and borax according as they are from *Bhote* or to *Bhote*, are met with at every step, guarded by the savage dogs of *Thibet* and the still more savage *Bhotias* among whom are also discerned a few most savage *Lámias*, or wandering beggars from *Tartary*. Of the latter the dress and appearance are most strange; the women are scarcely human, and both they and the men resemble the pictures given of the *Esquimaux*. The children are rosy-cheeked and sometimes pretty, but the small Chinese eyes buried in the face give a somewhat monkey-like look to their physiognomy. This latter observation applies equally to the *Bhotias* as to the *Lámias*. But I refer you to *TRAILL*'s report on *Bhote* for a description of the people and their customs, as well as of the trade between this province and *Thibet*, and the mode in which it is conducted. Let me rather tell you what *TRAILL* does not describe with accuracy, or at least with minuteness, viz., the rocks and the trees and the general geography. There is a very dreary glen without villages for ten or twelve miles separating *Upper* from *Lower Pynkanda*, or as they are sometimes, but improperly, called *Upper* and *Lower Nití*. After leaving the oaks and elms, &c., the wood becomes entirely *cypress*, and from summit to base of the mountains no other tree is seen. The larger trees attain not unfrequently an enormous size, some of them having a girth of 27 feet. The smaller kind are, however, the prettiest, and even *appear* to be different from the larger in species; but on observing them attentively I perceived no difference whatever in reality between what some travellers call the *Arbor vitæ* and the large *Himálayan cypress*. At *Júma*, *Upper Pynkanda* is entered, and then the scenery, retaining all its grandeur, also becomes exquisitely lovely. Villages of the true Swiss character are seen on every open spot, surrounded by *cedar* trees, and overhung by crags of the most stupendous character wooded up to the snow which shines on their summits,

with similar trees and birch, which latter as well as the sycamores have at this season the true autumnal tints contrasting finely with the dark branches of the deodar. The bridges now become very frequent; and the river, though still unfordable, becomes a torrent falling over rapids. *Malúrí* is next entered, a very large village in every respect similar to those seen in *Kanaur*. The crops when I arrived had just been cut, and it was somewhat strange at 10,250 feet above the sea to see the fields in the valley covered with harvest-sheaves, while the eternal snows were not more than 3000 feet distant overhead: and heavy frost was whitening the ground. Between *Malúrí* and *Melam* in the *Juwáhir* pass is a route practicable in August for about a fortnight every year, but like all the other routes *within* the *Himálaya* very high, snowy, and dangerous. It is in this intermediate range between the *Dhauri* and the *Gori* that *silver* is said to exist*. *Lead* mines are now worked on a high range not far above *Mulárí*; but the situation renders all hopes of increased produce or new discoveries of this metal, almost vain in this direction. After leaving *Mulárí*, we march up a glen of the most beautiful kind, the deodar trees (all of the *spreading* shape) coming down to the waters' edge, and now beginning to be mingled with chilá pines† (*pinus excelsa*, not unlike the *chír* at a distance), and Rágha firs (*abies webbiana*): a set of large villages is then entered. *Bampa*, *Gumsáli*, &c. all varying in elevation from the sea from 10,200 to 11,000 feet and upwards, the highest of which is *Niti*. At *Bampa* the deodar pines end, and no other tree is seen save birch and *pinus excelsa*, but the ground is covered as well as the surrounding heights, with beds of ground cypress, gooseberries, currants, furze, (*astragalus*, ROYLE,) webb rose, sweet-briar and juniper. The furze is especially plentiful, but there is no heath as at *Badrínáth*. By heath I mean the *andromeda fastigiata* depicted in Royle. Up to *Gámsáli* the rocks have been quartz, mica, schist and gneiss, with granite blocks, in the river beds, fallen from the peaks, except in the neighbourhood of *Mulárí* where argillaceous and

* N. B. All our *snowy range* galena ores have a good proportion of silver in them? Would this be worth extracting by chemical process? Could not you come and visit all our mines? [Capt. DRUMMOND and an experienced miner have since been deputed to the district.—Ed.]

† N. B. The Chilá pine grows up very near to the upper limit of birch. At *Niti* it is found at 11,800 feet; the birch only goes to 12,200 feet. At *Badrínáth*, the limit of wood is lower, as the snow comes down lower. Both *Badrínáth* and *Niti* are within the *Himálaya*, and have snowy peaks to their south: *Kedárnáth*, is on the contrary on the *south* base of the peaks and snow is met with at 10,000 feet. *Gangaurí* and *Badrínáth* are in the north of the peaks. *Jamnaurí* and *Kedárnáth*, on their south.

talcose schist is the chief rock. At *Gumsáli* the granite is met with *in situ*, pervading gneiss and mica schist, exactly in the mode shewn by LYELL in his picture of *Cape Wrath* in *Scotland*. The breadth of the veins is sometimes very thin, but sometimes the granite spreads into great broad patches. It is a reddish variety in general, but a highly quartzose variety with large schorl (?) or tourmaline (?) crystals is very common. Just above *Gumsáli* the river runs through tremendous gneiss and granite precipices, and the road is carried along scaffoldings, *now* quite passable for a poney, *hamáre aqbál se*. After turning this corner and ascending to *Níti* village the *Himálaya* peaks are all turned, not one is left to the north, though some of the northwest and northeastern heights are within perpetual snow limits. At *Níti* limestone (not crystalline) and argillaceous schist, chiefly the latter, are the rocks. *Níti* is 11,500 feet above the sea, and when I arrived no snow was to be seen even in the river bed. On the 10th October, I left the *Nítians* cutting their barley and pháphar harvest, and proceeded on to the junction of the *Gunés* with the *Dhauí*. I met with the first snow near *Gildúng*, more than 14,500 feet high, and this snow was merely a snow-cave in the river, the leavings of last winter. A few masses of gneiss and granite were still to be seen in the bed of the *Dhauí*, the debris of some of the *southern* precipices through which I could see the granite veins running along; but argillaceous schist and quartz were the rocks of the surrounding hills. There is one very bad gorge between *Gothing* and *Gildúng* pastures, where I shall have some trouble in making my road, but after *Gildúng* the hills are round and smooth up to the pass. They were covered with grass and saussúre flowers, the grass of very peculiar kinds and noted for its goodness. The pastures were covered with yáks (chowra-gaies) and jubboos, the *mule* breed. These animals retreat of their own accord to the villages on the setting in of the winter just before the villagers depart for the southern parganas. I carried up firewood and other loads on the backs of yáks, and my servants rode on others. Very few are white, except at the tail.

The rivers *Gunés* and *Dhauí* are mere streams, and were half frozen above *Gildúng* at their junction, but between *Gothing*, the *Rylkanda* joins the main river with a large body of water, arising at this season from a glacier, and up to this point the *Dhauí* may be said to be unfordable, except at one or two rocky points near *Níti*. The *Gunés* may be said to arise from a snow-bed, for I saw *snow-caves* towards its source, but the *Dhauí* or furthest branch of the *Ganges* certainly rises from a spring at the southern face of the pass where on the 11th Oct. there was not even a *speck* of snow. My camp on the 10th, was at

14,500 feet of elevation and I was sufficiently wretched and cold ; the wind on the open downs being terrific, and blowing *from* the southern peaks. At this point juniper was still plentiful, but no other shrub, and the grass was excellent, though coarse. On the 11th Oct. I started very early for the pass, being carried in a *dandi*. The first part was all smooth-going, but the rarity of the air became very distressing, after entering the 15,000 feet line, and parting with the juniper.

After leaving the source of the *Dhauhi*, the ascent was very steep through crumbling *crags* of blue limestone which now succeeded to the round clay-slate hills ; but the top of the pass was round and open, the limestone lying about in stones as far as the eye could reach, interspersed with arenaceous quartz rocks. There was not a cloud in the sky or on the mountains far and near, and I obtained a full and undimmed view into *Thibet*. The wind had not yet got up, but the cold was terrific, 14° in the shade, and 30° in the sun at 8 A. M. The first object that caught my eye was the one *Kailás Peak* standing up in the E. N. E. among a row of not very peaky snowy heights, which terminated that end of the picture like a white *kanraát*. Right in front stretched a dreary plain, shrubless, treeless and houseless, terminated along its whole northern side at a distance of about 20 miles from my position by a low range of rounded brown hills, utterly without shrub or tree or jutting rock, but very broken into ravines and perpendicular faces on this their southern side. The E. N. E. peaks towards *Manasarovara Lake* of which I spoke, stand up close behind this range, to all appearance, but there are 20 or 30 miles of plain between them, I am told. The plain is broken into ravines and river courses running down to the *Satlej* which flowed (not visibly as to *water*) in a deep ravine not far from the base of the round hills. I saw *this ravine* distinctly. *Dápa* was not visible even with a telescope, there being no smoke, and it lying among the ravines. It has no bazar and is only a row of *mud* huts. *Dámpú* was pointed out to me on the south slope of the hills to the northeast. The *Kailás peak* did not appear to be higher than 5,000 feet (if so high) above my position, but its distance I do not *know*. It appeared hardly higher than the *lower* range appears from *Saháranpúr*. No snow was visible except on the *Kailás* range and on the top of the highest portion of the intermediate hillocks, just behind *Dapa*. Travellers were passing over the plain with loaded sheep going to and from the pass, but there were no cattle visible at pasture. The whole country looked something like that Ward of Lanarkshire (I forget whether north, east, south or west) in which Tintoach peak is situated, and the distant hills looked like

those of Peebleshire. Had there been heather instead of stone and brown grass, it would have resembled a highland moor. Its level was hardly any where lower than the pass!! but immediately below the pass was a deep ravine which might deceive some people into the idea of a descent, whereas the opposite side of the ravine was certainly within 300 feet as high as this side and thence the plain begun. I descended into this ravine, saw the source of the *Siánki* river and some green ponds on one side of it, thence ascended the opposite banks, keeping to the northwest for two miles till I came to what was called the fossil ground, (*Chakra patharke makán.*) During this walk I was almost killed by mere pain. The rarity of the air along this *high road* to *Dápa* (nearly 17,000 feet) was perfectly awful. My dandi people would not go on and returned to the crest of the pass. One man accompanied me and he and I went groaning along, at a snail's pace; on a level, and yet in great agony. (Angina pectoris I now consider nothing in comparison).

The *Nití* Bhotias regularly educate for the endurance of this air, (*Bish ke hawá,*) and some cannot learn to bear it during their whole life. At *Dápa* I am told that in the morning and evening people feel it most, and an universal headache prevails. I felt the pain most at my chest, and suffocation seemed to threaten me at every step. There was, thank God! neither snow nor wind to add to my sufferings. I found the ammonites lying about in *hundreds* on the top of a small ascent just as the road wound through a kind of pass between two hillocks, before it descended to a ravine. The distance from the *Nití* pass was about three miles, but at this point the continuation from that pass of the crags forming the first rise of the *Himálayan* mountains was not very distant. The rocks surrounding the fossils were a kind of mottled grey limestone, i. e. the white veins were more frequent than in ordinary limestone. The hills seemed all to be decomposed hereabouts: and from the glen of the *Siánki* river, I observed that the limestone was in almost perpendicular *strata*, dipping to the northeast where a dip was visible; but the strata seemed to be the effect of a convulsion and not to be naturally formed. Indeed, the quartzose masses on the south side of the pass were all of a similar appearance, and some hills were composed entirely of white decomposed soil; as others, on both sides, were of a black soil. I was too ill to stay long picking up ammonites, and, moreover, I can always command a good supply from the Bhotias. I shall send you a present of specimens. To my surprise, I found in return that the whole ravine down to the *Siánki* river was equally full of ammonites, but that being round and uncovered from their matrix, the natives did not generally observe them so well as the broken ones high-

er up. Wedged in the blue limestone in the ascent back to the crest of the pass, I observed a large bed of thinly laminated and contorted argillaceous schist. The round quartz stones are every where scattered.

I see no difference whatever either in the geological character of the hills or the form of the ranges, between one side of the pass and the other. *Tartary is in fact entered very soon after leaving Niti village, and the peaks seen so grandly towering in the south are the real beginning of the Himáláya mountains, and not the crest of the pass.* Pray come and see whether I am not right in conjecturing that fossil ammonites can be found on the south face of the Niti pass, which is in my idea, only the highest portion of the Tartaric plain, running up to the Himáláya peaks. Even at Niti, there are peaks 23,000 feet high due south; and there as well as at the pass itself the spectator wonders how one is to thread one's way into Hindustán through them, no gorge or glen being visible, that seems to be like an introit or exit. Behind Malári the hills become round and Tartaric also, as well as behind Niti, but being higher and within the limit of perpetual snow, they are difficult to cross, and the pass following a river bed is preferred. The time to visit Niti is from the 20th Sept. to the 10th Oct. In May, Malári even is hardly reachable, and the snow does not melt in any part of Upper Pynkanda till the end of that month. The pass is not open till July, and it shuts now. On the evening of the day (11th Oct.) on which I visited the pass, the first snow fell. All night it snowed heavily and next day I could hardly reach Niti! Such are the vicissitudes at this season. At 3 P. M. when the wind got up, the thermometer was 30° in the shade and 42° in the sun at the crest of the pass. On the morning of the 12th, in my camp at 14,500 feet, the thermometer was 16° in the air and 22° at my bedside!

I shall wait till I get back to send you specimens. I have a good many fossil bones brought from the interior of Thibet, and from the Mána pass. They are however very broken and small.

P. S. The Hindu pilgrims who visit Manasarovara Lake go up by the Mána pass, which is merely the continuance of the glen of the Saraswati above Badrináth, (as the Niti pass is of the Dhaulí river,) and they return by the Nilang pass behind Gangautri or by Niti. These two last are the easiest of all the passes, Nilang being without much ascent and being the course of the Jhannábi river, which rises on the Thibet side. The Juwáhir pass is the most difficult, but being near Almora the greatest traffic, nevertheless, is carried on in that pass. The Neipál passes are all easy. The pilgrims leave Mána in July, and return to this side in the beginning of October.

IV.—*Additional notice on the geography of Cochinchina. By the most Rev. JEAN LOUIS, Bishop of Isauropolis.*

Although I have already given you a short account of the geography of *Cochinchina*, I think it is advisable to add a few more remarks because in the first place, I have recent intelligence from that country that various changes have taken place in the divisions or limits of the empire; and in the second place, because I have made,—and in some cases I have not made,—the consequent alterations in the map which I am about to publish.

The letters to which I have above alluded inform me that the kingdom of *Camboze*, henceforth will only have a local habitation and a name in our old maps. This kingdom so ancient, known in the Chinese annals by the name of *Chón lap* and of *Chiêm lap*, was originally designed by them under the name of *Phú nam*. From the fifth century and perhaps even before, it was divided into two parts, one named *Chiêm lap* (maritime). This part was the nearest to the sea and has the appearance of an immense lake. It is the division now known by the name of *Gia đìnt*, or the province of lower *Cochinchina*. The northern part which is very mountainous was called *Chiêm lap* ‘of earth’ (inland). This denomination ceased about the year 606 of the Christian era, when the general name of *Chiêm lap* or *Camboze* embraced the whole. This kingdom was bounded on the north by the kingdom of *Laos*, on the west by the kingdom of *Siam*, and on the south by the sea, for it is within the last century only that lower *Cochinchina* has formed one of its limits to the south, for the latter country was itself formerly one of the finest divisions of the *Camboze* kingdom. Its true limits were the mountains inhabited by savages called *Moi*, and those of the ancient kingdom of *Ciampa*. This country is situated in a long plain between two ranges of mountains on the east and west.

Camboze, from being one of the most flourishing kingdoms of Indo-China has undergone the same fate as all those great empires of Asia of which nothing remain but the name, while *Cochinchina* has been built upon its ruins. For a long period the king of *Camboze* was tributary to the kings of *Siam* and of *Cochinchina*. The king of *Siam* had taken all the country which bordered his kingdom to the west even as far as Battambang. The king of *Cochinchina* extended the limits of his dominion to *Chándoe*, a fortified place, situated on the canal of *Hà-tiên*, about three days’ journey from the capital of *Camboze*, named *Nam-vang*, by the Cochinchinese, *Penompeng* by the *Cambogiens*, from whence, the Europeans, who have a facility of corrupting names, have made *Columpé*.

The effeminate king of *Camboze* (he deserved this name for his escort was composed of nothing but women) for a long time found himself between two zealous protectors, who, while they were encroaching little by little on his dominions, were always feasting him with the titles of noble and powerful majesty. In a word, the situation of this phantom of a king resembled that of the unfortunate individual in the proverb who sitting between two stools soon found himself on the ground between them. The king of *Cochinchina* always placed near his majesty several mandareens to protect and direct his politics. For a long time this king had no male child, and although in that country the Salic law was not in existence, the Cochinchinese king only waited for the favorable moment to put into execution the project he had privately entertained for many years of adding to his kingdom what little still remained in the possession of the king of *Camboze*. About the end of 1835 or beginning of 1836 the king of *Camboze* died; immediately the king of *Cochinchina* gave the daughter of the defunct monarch in marriage to a Cochinchinese mandareen and proclaimed NAM VANG one of the protectors of the empire of *Annam*, and also of the country in the vicinity of the sea, under the title of Protector (prefect?) of *Gòsat*. In order not to terrify the neighbouring kings and principally so as not to excite the jealousy of the king of *Siam*, the *Cochinchinese* king gave the title of Nu Vuong, that is to say Queen, to the Princess of *Camboze*. If I were asked to say in which kingdom she reigns, as all her dominions have been added to the *Cochinchinese* prefecture? I should answer that I do not know; but in the same manner as small bones are given to amuse children, so sometimes fine titles are given to amuse grown up people. These are my reasons for having only placed the name of *Camboze* in my map and reduced the country into prefectures.

This is what I have done:—now what I have not done is the changing of *Nam Vang* the capital. Has it changed its place? Certainly, and what to us appears so extraordinary is not so to those who know the customs and superstitions of the Indians and of the Indo-chinese. In your journal for September 1837, it strikes me that I gave the reasons for these different changes. About the end of December 1833, this town of *Nam Vang* was entirely destroyed by the Siamese. The king of *Camboze* has had another town built at a short distance from the former one, and on the opposite bank of the same river, but being ignorant of its right position I have not altered it. I may say as much regarding the position of *Saigòn*, in lower *Cochinchina*;—it is no longer in its ancient place. Some day looking at this map, people will say that there are mistakes, but these errors are known and announced so as to enable

persons who visit these parts to rectify the same. In drawing the map of this country I am guided merely by the interests of science and must openly say what I think of the work, and of the ameliorations or changes that I have thought proper to make.

One of the most essential alterations and which I had the greatest hesitation in adopting, was—what do you think?—to change the course of one of the finest and largest rivers in Asia. The present map is altogether different in this respect from the ancient ones. In all the European maps this great river of *Laos* is represented throughout the whole of its course as strait as an arrow until it reaches *Cochinchina*. I think it a decided mistake; I will give you my reasons for thinking so. I was always persuaded that in regard to a geographical map, the same rule holds as for a geographical dictionary;—one copies the maps of another and enlarges it more or less, and adds a few more names, and it is lucky if in thus copying the errors are not augmented. The geographical dictionary of VOSGIEN offers an example. For his day it was a very good work; since then new editions have been made, enriched, augmented, improved, &c. and nevertheless the greater part of the original mistakes still remain, and what was really the case in the time of VOSGIEN, but has disappeared within the last 50 or 60 years, is not corrected: v. g. the town of *Chandernagore* is always the same;—it is said that a great quantity of velvet, silk, brocades, saltpetre, &c. are bought and sold there: I could give further examples of this, but it would be superfluous.

I return again to the geographical map of *Cochinchina*. I have given to the river which flows through *Laos* a course quite different from that in all the other maps, because the two maps I had with me drawn by engineers of the country gave it this direction. They know the country, they visit it every day and have measured all the windings of the river *Laos* which is also called *Meykon* or *Mecon*. To lay down interior of *Camboge*, *Laos* and a part of *Thon-king*, I have used an ancient and a modern map of the country designed by his majesty's engineers; for the coast I have used a map made by Mr. D'AYOT, a French officer, formerly in the service of his majesty the emperor of *Cochinchina*. I think it the best map for the coasts that I have as yet seen: in truth no one had such a good opportunity, for Mr. D'AYOT's occupations obliging him often to pass and repass this shore, he could make his observations and rectify them often. The knowledge I have had of the greater part of the places of the interior of *Cochinchina* properly called has greatly aided me in placing them on this map. You would probably wish to know if any confidence is to be placed in the map made by these

engineers, and if they were capable of measuring distances and finding the latitude and longitude of places. The different engineers and draftsmen belonging to his majesty with whom I was acquainted were not then conversant with the details of the art; they merely used the chain and could find out the points in the horizon by means of the compass. In drawing their maps they used those made by Europeans which they either reduced or enlarged in scale; then they added the different places omitted or unknown to the Europeans. Although this map is not without errors, yet I think it is and may be, unfortunately for a long period, the best and most detailed that has as yet appeared.

For 200 years a number of Europeans of different nations have inhabited *Cochinchina*, others *Tonquin*, and others again *Camboje*. Some had factories and were occupied with commerce; others were missionaries and attended to the instruction of the infidels and to the relief of the Christians. How happened it that in those happy times, when these strangers were protected and even enjoyed liberty, none of them have given us any knowledge of the geography of the country? About this period the Jesuits at the court of Pekin were giving to the enlightened world the most exact and most complete plans of an immense empire. In my opinion if the different kingdoms that I have enumerated had had as their chief a man like CANG HI, who protected the fine arts, we should have enjoyed the same advantage. But to the eyes of an ignorant prince and people he who dared to construct any geographical instruments so as to make observations, might have paid rather dear for such a temerity, either by death or at least by exile. I will give you an example of what I have just said. In the year 1818 or 1819, the officers of a French frigate "*Le Henri*," which was anchored in the river *Huê*, and who had been very well received by the king GIA LONG father of the reigning prince, wished to regulate their chronometers and had come ashore and prepared an artificial horizon. The day after the king having been informed of the preparation of these extraordinary instruments, had called into his presence the two French mandareens Messrs. VANNIER and CHAGNEAU, who were in his service, and said to them in the presence of the assembled council: "It appears that the officers of the frigate are making a map of the country, order them to discontinue their attempt." If GIA LONG, whose sentiments towards Europeans were so different from those of his son, acted in this way, what hope can we have of being better acquainted with the interior of this country so long as things are in this state?

It was a pity that Captain MACLEOD was unable to carry his researches beyond the 3rd degree of longitude. His services would have

been of great use, had he been able to have come down the *Mekong* river from the 18th degree to the 11th of latitude north. But let us hope that what is delayed, is not altogether lost. Captain MACLEOD has opened and cleared the road. Under the present circumstances it appears to me to be the best and only route to be taken; as neither the Siamese nor Cochinchinese will allow Europeans to enter their country to go and visit *Laos*, and much less to prepare instruments to make observations with.

About the year 1770, Mr. LEVAVASSEUR, a missionary at *Camboge*, well acquainted with the different localities, informs us; "that the town of *Columpé*, which some geographers have placed on the western branch of the *Mécon*, is in reality very near to this river, but on another river nearly as large which flows from a large lake from *Camboge*, and after passing *Columpé* enters the *Mécon*." The same person in another place says "after passing *Columpé* we soon arrived at the place, where the river, which flows past the royal town, enters the *Mécon*." Here the bishop of *Canathe* remarked to me that the river that enters *Cochinchina* is one of the branches of the great river, which after having been subdivided in *Cochinchina* enters the sea at two different places; adding to these two the mouth of the *Bassac* is the cause of geographers saying that the *Mécon* enters the sea at three different places: it is as well to add that the ancient geographers made no mistake in placing the three mouths of the *Mécon* in the *Camboge*, for in former days this kingdom extended as far. (*Nouvelles lettres édifiantes*, tom. VI.)

In the days of this missionary, the dominions of the king of *Cochinchina* did not extend so far as the country watered by the western branch of the *Mécon*. It is surprising that the greater part of our geographers have not profited by these observations, and that the route traced out by the ancient geographers should still be followed without trying to amend it. MALTEBRUN says that one can only guess at the right situation of *Lac-thó* which a recent traveller says is situated to the north of *Laos*, between *Tong-kin* and *China*. I have tried to find its situation and I think I have succeeded. From the narrative of the missionaries, this country of *Lac-thó*, which is nothing more than a canton, contains about 1500 inhabitants, and is situated at the extremity of *Tong-kin* towards the west, is dependent of the province of *Thanh-hoa-mgoai*, and is situated on the borders of the provinces of *Hưng-hóa* of *Soutáy* or *Doai* and of *Nam-thường*. I think MALTEBRUN was wrong in only seeing in the *Lac-thó*, the *Laos* by the Chinese name of *Lac-tchoue*.

At present a large country is designated by the name of the kingdom of *Laos*, or more properly *Lao*, because a number of towns or small states bear that name. For instance in the Cochinchinese map there is a great kingdom called *Lao long*; its capital town is near the river, called *Mécon* when it approaches *Camboge*; but near the capital itself this river bears the name of *Ciu long giang*, which signifies, the river of the nine dragons. I think that from the word *Lao long*, the extent of country situated between two chains of mountains and watered by this great river has been called *Lao*. I was unable to place in my map this town of *Lao long* as it appears to be between the first and second degrees of longitude east and about the 22nd of latitude north. I was surprised at not finding this capital in Mr. MACLEOD's map. MALTEBRUN and many others have placed the source of this river in the province of *Yun-nam* in *China*. But I am persuaded that this river flows from the mountains of *Thibet*. In a short time I have no doubt that we shall obtain proof of what I have advanced. It is indicated in the map of *Cochinchina* and the extraordinary inundation of this river about the month of September proves also, that the melting of the ice of *Thibet*, is the cause of its overflowing its banks and spreading its waters over *Camboge* and lower *Cochinchina*, and causing the same fertility as the *Nile* does in *Egypt*. What MALTEBRUN speaks of a traveller having arrived at *Laos* from *China* by descending one of the rivers and crossing a lake, does not prove that the *Camboge* river has its source in *China*; this on the contrary accords exactly with the Cochinchinese map; about the 23rd or 24th degree of latitude one of the rivers, which flows from the mountains of *Ligum-nam*, enters the great river of *Camboge*. This Portuguese traveller must have taken the junction of these two rivers for a lake.

The Dutch ambassador, GERARD VAN WUTHOF visited *Laos* in 1641, and if we exclude LE MARINI whose works I was unable to procure, it is to the Dutch we are indebted for what little we know of *Laos*. They embarked on board small boats at *Camboge*, and were eleven weeks reaching *Viênchau*, the capital of one of the states of *Laos*. In the Cochinchinese map this town is called *Bàn chau*, but the Siamese call it *Vien chau* and I think this its real name. I do not know why some geographers call it *Lanchaing* or *Luntchung*, others *Langyone* which is not a bit better. Others have at a short distance from *Vien chau* added the town of *Sandepara*; I have not mentioned this place because I could find no trace of it in any of my maps. The greater number of the small kingdoms composing the country of *Laos* I have included in the Cochinchinese empire, because I think them all

tributary to that empire. Some pay their tribute in gold, musk, gum, lac, &c.; others again in elephants' teeth, rhinoceros' horns, skins of deer and other animals, aromatic gums, &c. The Cochinchinese sell their silks, but salt is the most profitable substance; formerly this commodity used to be sold for its weight in gold.

The language and customs of the country of *Laos* resemble in a great measure those of *Siam* and *Camboge*. The religion of Buddha is in the same state of veneration as in these two countries, but a few changes have been introduced by the Bonzes. There are in this country a number of idols and Bonzes; one scarcely finds a village without them. Near the residence of the princes there is generally a magnificent temple and a gilt idol of an enormous size. Each prince as he succeeds to the throne has it re-gilt. The custom of burning the dead bodies near it is still kept up, and of preserving the ashes in an earthen vase placed in the temple of the idol. Their Bonzes have however broken the law of abstinence; they leave this part of the rites to their brethren, while they themselves eat indifferently all sorts of meat. They themselves have ordained that they may marry; this is not allowed in *Camboge* of *Siam* and *Cochinchina*, where if they do not wish to remain in celibacy they are obliged to quit the pagoda.

The Dutch who ascended the *Camboge* river on their way to *Láo*, found this river very broad in some places and very narrow and full of rocks in others. The most remarkable places they saw were *Loim*, *Gockelok*, *Looim*, *Simpou*, *Sombok*, *Sombabour*, and *Baatsiong*. Out of the whole of these I only meet with *Sombok* and *Sombabour* which were formerly towns of *Camboge*. I have not placed either of them in my map, because in the last century the frequent civil wars have caused great ravages, and the constant incursions of the Cochinchinese and principally those of the Siamese have ruined many towns and changed the face of the whole country. A great number of the inhabitants were killed; others again were taken into captivity. The Cochinchinese seeing that a part of these territories was uncultivated, advanced little by little to cultivate a land, the fertility of which was surprising, and at last ended by being the only masters of this part.

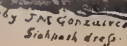
The empire of *Anamite*, which at its origin, was nothing more than a small state has become a vast and powerful empire by the conquest of *Ciampee* of *Tong-king* and of *Camboge*; this empire might be compared at its foundation to a small rivulet that becomes larger as different streams enter it. If the geography of this country and of its neighbouring kingdoms has become obscure, it is not, as *MALTEBRUN* says, from its having been treated of by numerous writers who contradict each other,

but owing to the numerous changes that have taken place in consequence of fresh conquests and usurpations. A scientific and clever traveller who would penetrate into these vast and almost unknown countries would render a great service to science.

V.—On the *Reg-Ruwan* or moving sand, a singular phenomenon of sound near *Cabúl* with a sketch. By Capt. ALEX. BURNES.

In the vicinity of *Cabúl* there is a phenomenon similar to what occurs at *Jabal Nakous*, or the sounding mountain, near *Tor* in the Red Sea. It is called *Reg-Ruwan* or the moving sand, and is thus described by the emperor *BABER*. "Between these plains there is a small hill in which there is a line of sandy ground, reaching from the top to the bottom of the hill. They called it *Khwája Reg-Ruwan*. They say that in the summer season the sound of drums and nagarets issues from this sand." The place has been seldom visited, being in the *Kohistan* or troubled part of the country, but the power of the present chief of *Cabúl* has subdued the rebellious tribes near, and an opportunity was thus afforded us of visiting it, which we did in October last.

The description of *BABER* above given, though it appears marvellous, is accurate; *Reg-Ruwan* is about forty miles north of *Cabúl* towards *Hindu, kosh* and near the base of the mountains. Two ridges of hills, detached from the rest, run in and meet each other; at the apex of this, a sheet of sand, as pure as that on the sea shore, with a slope of about 40° , forms the face of a hill to its summit, which is about 400 feet high. When this sand is set in motion by a body of people, who slide down it, a sound is emitted. On the first trial we distinctly heard two loud, hollow sounds such as would be given by a large drum. On two subsequent attempts we heard nothing, so that perhaps the sand requires to be for a time settled before the curiosity is displayed. There is an echo in the place, and the inhabitants have a belief that the sounds are only heard on Friday when the saint of *Reg-Ruwan*, who is interred hard by, permits! The locality of the sand is remarkable, there being none other in the neighbourhood. *Reg-Ruwan* faces the south but the wind of *Purwan* (*badi Purwan*) blows from the north for the greater part of the year, and has probably deposited it by an eddy. Such is the violence of this wind that all the trees in the neighbourhood bend to the south, and a field, after a few years, requires to be recleared of the pebbles and stones which the loss of soil lays bare. The mountains here are generally composed of granite or mica, but at *Reg-Ruwan* we had sandstone, lime, slate and quartz.



REG-RUWAN under Hindu-kosh. see Burnes' description

(The storm came on from Dundee, NW of this point



Sketch
of the progress
of the
WHIRLWIND
on Mc
8th April 1838

Reduced from a print
by M. Plova
JP.

In a late number of the Journal of the Asiatic Society, an extract of a letter from Lieutenant WELLSTEAD of the Indian Navy, described the mountain in the Red Sea, which has also been mentioned by GRAY and SEETZEN. There would appear to be some variation in the kind of sound issued, but both are, I suppose, explained by one theory and that given by Mr. JAMES PRINSEP, regarding *Jabal Nakous*, being merely 'a reduplication of impulse setting air in vibration in a focus of echo.' At all events *Reg-Ruwan* is another example of the phenomenon, and the accompanying sketch of its *locale* may please those interested in acoustics.

Reg-Ruwan is seen from a great distance, and the situation of the sand is so curious that it might almost be imagined the hill had been cut in two, and that it had gushed forth as from a sand bag, though the wind could have brought it together. Convulsions of nature however are exceedingly common in this part of the world. BABBE mentions one to have occurred in his time and in this very plain, so "that, in some places, the ground was elevated to the height of an elephant above its old level, and in others as much depressed." A severe earthquake took place in *Cabûl* six years ago and shocks happen so frequently as twice or thrice in a month. We had no less than three of these on the 14th of December last, and many before and since, but they were all slight. A passing shake, with a rumbling noise, is called "goozur" to distinguish it from "zilzillee" or earthquake, which the inhabitants denominate a motion that is tremulous. A Cashmerian lately asked me to inform him what was the cause of the series of earthquakes that continued daily without intermission for six successive months in *Cashmeer* about four or five years ago. If these reports be true, *Cashmeer* may have been a lake as is generally supposed, or it may have been a *g* thing. The frequency of volcanic action in these countries is deserving of much attention.

VI.—On the *Siah-pôsh Kaffirs* with specimens of their language and costume. By Captain ALEX. BURNES*.

The extreme interest which attaches to the history and condition of the Kaffirs, who occupy the mountainous regions of northern *Afghanistan*, has excited much curiosity, which it is my endeavour to gratify, having

* Captain BURNES in the letter to Mr. Secretary MACNAGHTEN, forwarding this interesting note, writes :—

"I early determined either to attempt in person to enter *Kaffiristan* or to send one of the gentlemen along with me, but the services of all being disposed of else-

just met several Kaffirs in *Cabúl*, who had been captured at an advanced age, and were still familiar with the language and manners of their countrymen. I have also of late seen people both Hindu and Muhammadan, who had visited the habitations of the Kaffirs and have thus had the opportunity presented of hearing what these people thought of themselves and how they were viewed by foreigners. The account of the Kaffirs, given by Mr. ELPHINSTONE, renders it unnecessary to repeat the many details which will be found in his work; my object being to improve our present knowledge and clear up, if possible, some of the existing obscurity.

In speaking of their nation, the Kaffirs designate themselves as the Muhammadans do 'Kaffirs' with which they do not couple any opprobrious meaning though it implies infidel. They consider themselves descended of one KOMKSHAI, and their Muhammadan neighbours, either corrupt the word or, assign them a lineage from *Koreish*, one of the noblest of the tribes of *Arabia*, to the language of which country they further state that of the Kaffirs to be allied. They have no distinction of black and white Kaffirs that I could hear of; and one of the Kaffir informants assured me that his tribe looked upon all as brothers, who wore ringlets and drank wine! They have however no definite idea of the surrounding countries, *Bajour* and *Kuner* to the south being the limits of their geographical knowledge. They have no books, nor is reading or writing known in the nation, so that they have no recorded traditions. Their country has many table-lands some of which extend for fifteen or twenty miles, and on these there are always villages; *Wygul* and *Camdesh* are on one of these plateaus, and eastward of the latter lies the country of the Muhammadans. The winter is severe, but in summer grapes ripen in great abundance.

The words of a young Kaffir, about eighteen years of age now in *Cabúl*, will afford the best explanation of many of their customs. His name as a Kaffir was DEEABUR, as a Muhammadan it has been changed to FUREDOOM. He fell into the hands of the Muhammadans eighteen months since, by losing his road when passing from his native village of *Wygul* to *Gimeer*, to visit a relative. He is a remarkably handsome young man, tall with regular Grecian features, blue eyes and fair complexion, and is now a slave of the Ameer. Two other Kaffir boys, eight

where, no opportunity has been yet presented of hearing how a European observer would regard that singular race. As there is much curiosity, both on the continent and in our own country, about the Kaffirs, and we are naturally looked to for information regarding them, I have transmitted this paper to Government that his Lordship the Governor General may be pleased to dispose of it as he deems proper."

and nine years old, who came along with him, had ruddy complexions hazel eyes and auburn hair. They also had less beauty and high cheek-bones, but they were still handsome, and extremely intelligent. Their Kaffir names were TEENGEER and CHOUDUR, and that of their mothers RAJMÁL and BRAOPAGLY. None of these Kaffirs, nor two others which I saw, had any resemblance to the Afghans or even Cashmerians. They looked a distinct race, as the most superficial observer would have remarked on seeing them.

DEENBUR said that there was no chief of the Kaffirs, but that great men were called *Salmunash*. They do not appear to carry on any combined operations against their neighbours, but they retaliate, when an invasion of their frontier takes place, and are very inveterate against the Muhammadans, and give no quarter to captives. They possess great agility and activity, qualities which their enemies accord to them. Muhammadans seldom venture to enter their country as travellers, but Hindus go as merchants and beggars (*fakirs*) and are not ill used. I met a Muhammadan who had passed into *Budukhshan* and was not molested. In killing their food, the Kaffirs have no ceremonies, they sacrifice cows and goats to DOGHAN, the Supreme Being, particularly at a great festival which occurs in the beginning of April and lasts for ten days. They have idols and know the Hindu god MAHA'DEO by name, but they all eat beef and have either lost their Hindu belief or never had any thing in common with it. They neither burn nor bury their dead but place the body in a box arrayed in a fine dress, which consists of goat skins or *Cashgar* woollens; they then remove it to the summit of a hill near the village where it is placed but never interred. Kaffir females till the ground, and in eating the men sit apart from the women. They have no tables, the dish containing the meal is placed on a tripod made of iron rods of which DEENBUR and his companions made a model for me with twigs. They assemble around this and eat sitting on stools or chairs without backs. They are very fond of honey, wine and vinegar, all of which they have in abundance. They have no domestic fowls, nor is there a horse in their country; wheat and barley are their grains, there is no juwaree. They are very fond of music and dancing but, as in eating, the men separate from the women, and the dance of the one sex differs from that of the other. Both were exhibited to me, that of the men consists of three hops on one foot, and then a stamp; the women place their hands on their shoulders and leap with both feet, going round in a circle. They have a two-stringed instrument and a kind of drum for music.

DEENBUR described the mode of life among the Kaffirs to be social, since they frequently assemble at each other's houses or under the trees which embosom them, and have drinking parties. In winter they sit round a fire and talk of their exploits. They drink from silver cups, trophies of their spoil in war. The wine, which is both light and dark, will keep for years and is made by expressing the juice under the feet into a large earthen jar, described to be of delicate workmanship. Old and young of both sexes drink wine, and grape juice is given to children at the breast. A Kaffir slave girl, who became a mother, shortly after her arrival in *Cabúl*, demanded wine or vinegar after the birth of her child, the latter was given to her, she caused five or six walnuts to be burned and put in it, drinking it off and refusing all the luxuries of *Cabúl*. The costume of the nation is better shewn in the accompanying sketch than by description; a successful warrior adds to it a waist-band ornamented with a small belt for every Muhammadan he has killed. The daughter of such a one also, has the privilege of wearing certain ornaments entwined in her hair, made of sea shells or cowries, which no one can usurp without signal punishment. A Hindu, who was present at a Kaffir marriage, informed me that the bridegroom had his food given to him behind his back because he had not killed a Muhammadan. Enmities frequently arise among them, but the most deadly feud may be extinguished by one of the parties kissing the nipple of his antagonist's left breast, as being typical of drinking the milk of friendship. The other party then returns the compliment by kissing the suitor on the head, when they become friends till death. The Kaffirs do not sell their children to Muhammadans; though a man, in distress, may sometimes dispose of his servant or steal a neighbour's child and sell it.

I asked my oldest Kaffir informant if he regretted the loss of his country and he, at once, replied that their Kaffir customs were best but, here, he preferred those of Muhammad. He had, however, imbibed a taste for *Islam*, and observed that here there was religion and there none. He told me a singular fact of a Kaffir relative of his own, named SHUBOOD, who had been captured and, becoming a Moollah, travelled, under the name of KOROSH, into India, returning about three years ago, to Kaffiristan when he made known many things to the Kaffirs which they had never before heard of: after a short stay, he wished to quit the country but he was not permitted. The names of places which DEENBUR remembered were *Wygul*, *Gimeer*, *Cheemee*, *Kaygul*, *Minchgul*, *Ameeshdesh*, *Jamuj*, *Nishaigram*, *Richgul Deree*, *Kuttar*, *Camdesh*, *Douggul*, *Pendesh*, *Villegul* and *Savendesh*. It is however, believed that all the inhabitants of *Durai Noor*, and other defiles of *Hindu*

koosh north of *Cabûl* and *Julalabad*, are converted Kaffirs, which their appearance and mixed language seem to bear out.

The language of Kaffirstan is altogether unintelligible to Hindus and their *Uzbek* and *Afghan* neighbours; some of its sound, soft labials are scarcely to be pronounced by a European, but the accompanying specimens will illustrate it. They were taken from DEENBUR. The sentences that follow bear, however, an evident affinity to the languages of the Hindu stock. As the Kaffirs have no written character, I give them in an English dress. When in the *Kohistan* of *Cabûl*, near *Punjsh eer*, I had an opportunity of meeting some of the people, who speak *Pushye*, which resembles the dialect of the Kaffirs as may be supposed from their proximity to them, and as will be seen in the annexed vocabulary. *Pushye* is spoken in eight villages, named as follows: 1 *Eeshpein*, 2 *Eeshkein*, 3 *Soudur*, 4 *Alisye*, 5 *Ghyu*, 6 *Doornama*, 7 *Dura i pootta* and 8 *Mulaikir*, all of which are situated among or near the seven valleys of *Nujrow* (*huft dura i nujrow*). The *Pushyes* are considered a kind of *Tajiks* by the *Afghans*.

I have stated the account which the Kaffirs give of themselves. I received the following additional particulars from a Muhammadan, who had visited four villages named *Kutar*, *Gimeer*, *Deeos* and *Sas*, all of which are beyond the frontier hamlet of *Koolman*, which is inhabited by *Neemchu* Mussulmans and lies north of *Julalabad*. He described the Kaffirs as a very merry race, without care, and hoped he would not be considered disrespectful, when he stated that he had never seen people more resembling Europeans in their intelligence, habits and appearance as well as in their hilarious tone and familiarity, over their wine. They have all tight clothes, sit on leathern stools, and are exceedingly hospitable. They always give wine to a stranger and it is often put in pitchers, like water, at public places which any one may drink. To ensure a supply of it they have also very strict regulations preventing the grapes being cut before a certain day. My informant considered the country of the Kaffirs quite pervious to a traveller if he got a Kaffir to be his security. They have no ferocity of disposition, however barbarous some of their customs appear; and, besides the mode of ensuring pardon already described, he stated that if a Kaffir has killed ten men of a tribe, he can secure forgiveness by throwing down his knife before his enemies, trampling on it and kneeling.

Besides my Muhammadan informant I met a Hindu at *Peshawur*, who had penetrated into the higher Kaffir country, about twenty-five miles from *Chughansurall* where he resided for eleven days: some of his observations are curious. He was protected by a Kaffir and expe-

rienced no difficulties, but he would not have been permitted to go among the more distant Kaffirs : had he attempted it, he either would have been killed or compelled to marry and live for good among them. He was not however convinced of the journey being impracticable. He was kindly treated as far as he went, and admitted to their houses. He saw them dancing and describes the race to be of exquisite beauty, with arched eyebrows and fine complexion ! These Kaffirs allow a lock of hair to grow on the right side of the head, and the Hindu declares they were of his own creed as they knew SIVA. They had bows and arrows for defence, they pulled the strings of the former with their toes and their arrows had heads like drooping lilies. Their country had many flowers and much shade. Many coins are found in it resembling those to be procured about *Bajour*, and some of which have Grecian inscriptions. The worthy Hindu insisted upon its being a fact that the Kaffirs sold their daughters to the Muhammadans according to their size, twenty rupees *per span* being a fair valuation ! There is certainly no difficulty in procuring Kaffir slaves, and the high prices which are readily given may have induced these poor people, who closely adjoin the Muhammadan countries, to enter upon this unnatural traffic.

But by far the most singular of all the visitors to the Kaffir country of whom I have heard was an individual, who went into it from *Cabûl* about the year 1829. He arrived from *Candahar* and gave himself out, to be a Gubr or fireworshipper and an "Ibrahime" (follower of ABRAHIM) from *Persia*, who had come to examine the Kaffir country where he expected to find trace of his ancestors. He alighted in *Cabûl* with the Armenians, called himself SHUHRYAR, which is a name current among the Parsees of these days. His hosts used every argument to dissuade his going on such a dangerous journey, but he proceeded to *Julalabad* and *Lughman*, where he left his pony and property, and entered the Kaffir country as a mendicant by way of *Nujjil*, and was absent for some months. On his return, after quitting *Kaffiristan*, he was barbarously murdered by the neighbouring *Hazâras* of the *Ali Purust* tribe ; whose Malik, OOSMAN, was so incensed at his countrymen's conduct that he exacted a fine of two thousand rupees as the price of his blood. All these facts were communicated to me by the Armenians in *Cabûl*, but whether poor SHUHRYAR was a *Bombay* Parsee or a Persian Gubr, I could not discover, though I am disposed to believe him the latter as he carried along with him "a rukum" or document from the shah of *Persia*. The death of this successful sojourner among the Kaffir tribes is a subject for deep regret, but it holds out a hope that some one may still follow the adventurous example of this disciple of

ZOROASTER, and yet visit the Kaffirs in their native glens. I know not what could have given rise to an identification of the Kaffir race with that of ancient *Persia*, but the mode of disposing of their dead on hills, without interment, but there are certainly traditions all over *Afghanistan* regarding the Gubrs or fireworshippers, and one of their principal cities, called *Gurdez*, in *Zúnnut* south of *Cabúl*, yet exists, which even in *BABER's* time, was a place of considerable strength.

The country of the Kaffirs has also been entered by many wandering jewellers who pass through it, which brings me to make mention of its adjoining districts and their peculiarities. One of these individuals had visited *Cashgar* beyond *Deer*, and proceeded thence to the town of *Shah Kuttore* under *Chitral* and on to *Badukhshan*, habited as a *fakir*. He always received bread when he asked for it, but could not have, with safety, made himself known. The account of this man's journey is curious as well as what he saw during it. Near a "zyarut" or place of pilgrimage at *Bajour* there is an inscription which, from the specimen shewn to me, I take to be old Sanskrit. About two miles beyond there is another inscription; between the village of *Deer* and *Arabkhan*, there is a third, towards *Cashgar*, where the road is cut through the hill for some yards, the fame of the artificer being commemorated. *Katigiram* is an ancient place a day's march from *Deer*. Two days' journey from *Bajour*, there is a small idol cut in black stone and attached to the rock. It is in a sitting posture, about two and a half feet high, and is said to have a helmet on the head similar to what is seen in the coins from *Bajour*. It may be a Hindu figure for that tribe hold it sacred, but idols are to be dug up throughout all this country and a small one, eight or nine inches high, was brought to me from *Swat* which represented a pot-bellied figure cut in stone, *half seated*, with crossed arms and a hand placed on its head. Such idols are also found at the "tope" in the plain of *Peshawur*, and, whether they represent *BACCHUS* or some less celebrated hero, antiquarians must determine. But to continue the jeweller's rambles. At *Cashgar* he purchased rock crystal (beloor) from the shepherds, who, simple men that they are, believe it to be the frozen ice of an hundred years! In *situ* a maund of it costs twenty rupees and he doubled his outlay on returning by making it into seals and armlets. It is exported to *China* as buttons for the caps of the Mandarins. From *Cashgar* the onward journey was made for lapis lazuli and rubies which he found in *Budukhshan*. Leaving *Cashgar* he crossed the river that passes *Chitral*, and which is here called the water of *Kuner*; in three days he came to a hill called "*Koh-in-núgsan*" or the hill of injury, down which he slid upon the

frozen snow in a leathern shirt and came to a bridge, but this is not on the high road. I was so much pleased with the novel account of his journey, that I prevailed on the man to repeat it and attend to such instructions as I should give him regarding copies of the inscriptions, &c. but he has not yet joined me.

Vocabulary of the Kaffir language.

<i>English.</i>	<i>Kaffir.</i>	<i>English.</i>	<i>Kaffir.</i>
God	Yamrai, Doghan	Wheat	Gum
Sky	Dillú	Barley	Yú
Star	Tarah	Grass	Yús
Sun	Soe	Flour	Bre
Moon	Más	Bread	Eu
World	Dúnyá or doonya	Milk	Zor
Earth	Palál	Cheese	Kila
Water	Aú	Jar	Sha
Wind	Dámá	Pot	Siri
Fire	Ai	Salt	Vok
Lightning	Pulak	Man	Naursta
Thunder	Trankyás	Woman	Mashi
Clouds	Mayár	Son	Dabla
Rain	Wásh	Daughter	Dabli
Snow	Zim	Father	Tálá
Ice	Achama	Mother	Hai
Moist	Ashai	Brother	Bura
Hot	Tapí	Sister	Sosi
Cold	Yoz	Uncle	Kench taulá
Spring	Vastinck	Priest	Deshtan
Summer	Vasunt	Ink	Káchá
Autumn	Shari	Tongue	Jip
Winter	Zuin	Hair	Kech
Kill	Dá	Forehead	Taluk
Plain	Gúlulá	Ear	Kar
Pond	Azá	Eye	Achán
River	Galmulá	Nose	Nású
Canal	Shuelaw	Mouth	Ash
Tree	Ushtun	Teeth	Diut
Desert	Ghatadá	Chin	Deli
Fruits	Deráz	Heart	Zudúwán
Green	Yuz	Hand	Chapál pain
Horse	Goa	Finger	Agun
Ass	Ghudá	Nail	Nunchá
Bullock	Ga	Foot	Kur
Cow	Istriki gao	Cotton	Poché
Sheep	Vami	Wool	Varak
Goat	Vasru	Cloth	Kamis
Dog	Tún	Shoe	Vachai
Shepherd	Pashká	Quilt	Brastan
Herd	Icho	Iron	Chima
Tiger	Se	Silver	Chitta
House	Ama	Gold	Soné
Door	Do	Soldier	Oatah
Window	Dari	Chief	Salmanash
Rope	Utrek	Troop	Katki
Pin	Kakhche	Fort	Qila

English.	Kaffir.	English.	Kaffir.
Wall	Barkan	Five	Pich
King	Pacha	Six	Shu
Bow	Shindri	Seven	Soti
Arrow	Kain	Fight	Osht
Sword	Tavali	Nine	Nu
Shield	Karai	Ten	Dosh
Spear	Shel	Twenty	Vashi
Armour	Jirah	Thirty	(not known only even tens)
Axe	Chavi	Forty	Dovashi
Knife	Kalai	Sixty	Trevashi
Tobacco	Tamákú	Eighty	Chal
One	Ek	Hundred	Chatavashi
Two	Du	Thousand	Hazár
Three	Tre		
Four	Chata		

Questions in the Kaffir Language.

What is your name?	Too ba nam kussoora?
Where is your country?	Eema ba desh akineora?
Where are you going?	Akeený gayish?
In your country do they dance?	Eema ba deshakna natee chaol?
Do you drink wine?	Chookrye piash?
I do not understand.	Yai na piam.
Give me water.	Eeu an as.
Is the road bad?	Poout awaiwa.
Are there bears in Kaffiristan?	Eema ba deshukua broo wa?
How many days' journey from <i>Wygul</i> to <i>Camdesh</i> ?	<i>Wygul</i> oshtee kittee wass ka dunooa <i>Camdesh</i> ?
Who lives in <i>Shah Kuttore's</i> country?	<i>Shah Kuttore</i> bu deshunaki visheen ust mom?
Muhammadans reside there?	Moosulmannis heen ust mom?
Is there any king in <i>Wygul</i> ?	<i>Wygul</i> pucha waist a nuwair?
How many towns are there?	Kitee shuhr war?

Specimens of the Pushye Dialect.

English.	Pushye.	English.	Pushye.
Bread	Aoo	Foot	Payam
Water	Oorgai	Waist	Gamum
Mother	Ai	Breast	Simoom
Wife	Ishterkoom	Belly	Koochun
Son	Pootram	Thigh	Dawaram
Forehead	Tili	Knee	Kareem
Eyebrows	Kash	Fingers	Angorau
Nose	Nost	Ear	Kaiam
Lip	Ooshtam	Hair	Loom
Mouth	Gilamam	Butter	Ghoost
Beard	Darim	Flour	Aboe
Hard	Hustam	Meat	Pe

Questions.

Are you hungry?	Awa tooma?
Are you thirsty?	Tunooma?
The sun is hot.	Soora gurma.
Have you fever?	Pare jech ke?
What is your name?	Name kera?
Where are you going?	Kuro shart ke?
When will you return?	Kima le yai?
Is it snowing?	Lange taroo?

VII.—*Examination of the Inscriptions from Gírnar in Gujerát, and Dhaulí in Cuttack, continued by JAMES PRINSEP, Sec. As. Soc.*

Sanskrit Inscription, No. 1, from Junagarh.

After the announcement made in the proceedings of the Society, published in the present journal, that the Governor General has acceded to my request for the deputation of an officer to take exact facsimiles of the several inscriptions in *Gujerát* which have turned out to be of so important a nature, it may seem premature or superfluous to continue the publication of the analysis of the less perfect document now in my hands. But it is only in a few uncertain passages that the expected corrections are desired. The body of the matter is sufficiently intelligible, both in the *Páli* edicts of *Gírnar* published last month, and in the Sanskrit inscription from *Junagarh*, which I have chosen for the subject of my present notice.

I should indeed be doing an injustice to Captain LANG who executed the cloth facsimile for the President of the Bombay Literary Society, and to Dr. WILSON himself, who so graciously placed it at my disposal, when doubtless he might with little trouble have succeeded himself in interpreting it much better than I can do, from his well known proficiency in the Sanskrit language; it would, I say, be an injustice to them, were I to withhold the publication of what is already prepared for the press, which may be looked upon as their property, and their discovery, and to mix it with what may hereafter be obtained by a more accurate survey of the spot.

Before, however, proceeding to the inscription itself, I have much pleasure in inserting Dr. WILSON's account of his visit to the place, and of the mode in which the inscriptions were taken down under his instructions. It was printed in the *Bombay Christian Spectator*, whence the author has kindly extracted it at my request, in a letter first received from Bombay.

Account of a visit to Gírnár by the Rev. J. WILSON, D. D.

It was on the 13th of March, 1835, that I visited the *Gírnár* mountain. The following is the extract from my journal which you have asked me to send to you.

“ After leaving the Nawáb of *Junágad* (with whom and his darbár I had spent the preceding night in keen, but friendly discussion), I rested for a little, and then proceeded in a *doli* to the celebrated *Gírnár* hill. I found myself at the base of it (the road leads through thick jangal) about day-break. The ascent is very difficult,

Journ. Assoc

101. VII PLAT.

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stone nuclei broken here

[illegible]

J. P. Manser Libk.



and in some places, from the precipitousness of the mountain, rather trying to the nerves. The rock is of granite, containing, particularly near the summit, a large quantity of mica. There is scarcely any vegetation upon it, and indeed from its steepness, no possibility of the formation of a soil. The largest temples are at an elevation, I should think, of about 2000 feet, estimating the greatest height at 2500. They are built of the granite, though some of the steps and staircases are formed of sandstone, from the plain below. They are works of prodigious labour, and are executed in excellent taste. They are at present appropriated by the Jainas ; but the most ancient and remarkable of them appear to me from the Dhagob, and other arrangements, to be undoubtedly *Buddhist*. The most remarkable Jaina images in them, are those of *Neminátha*, not much exceeding the size of a man, black and ornamented with gold, and at present worshipped ; and *Rishabhdeva*, of a colossal size, of granite, covered with white chunam ; and *Parasnátha*. In the inferior parts, there are the images of all the twenty-four *Tirthankars*. There are numerous cells in the courts of the temples, and places adjoining, which were probably formerly used by the priests. At present, the only persons who live on the hill, are the sipáhís who guard the temples, a few *pujáris*, and pilgrims who come to worship, and who may sojourn for a night or two. I was allowed to go through all the temples, and even to enter the shrines, and measure the idols. When I had finished the inspection of them, a large company of Yatis and Baniyas came to perform their devotions ; and as soon as I could command their attention, I preached to them the words of eternal life.....

“ After taking a little refreshment, I proceeded to the temple situated at the *summit* of the hill. Though goodlooking in the exterior, and evidently of *Buddhist*, or *Jaina*, origin, it is very filthy within. In one extremity, there is an uncarved block of granite, with huge eyes and a monstrous mouth depicted upon it, sacred to *Deví* under the name of *Ambámá*. I found a good many people around it, to whom I spoke on the folly and guilt of idolatry. There are two other peaks on the hill, from one of which the Hindus, who get tired of life, throw themselves down in the hope of making a speedy journey of it to heaven. I did not think of visiting them, on account of the difficulty of reaching them. There was, however, a staircase leading to them, as to the peak on which I stood.

“ The view from the top of *Girnár* is one which is not dearly purchased at the expense of ascending it. It embraces the adjoining hills (of granite), and one of which, the *Dhátar*, vies with it in height, and an

immense range of low country extending in all directions, and toward the west, reaching to the sea. There is much jangal on the lower hills ; and cultivation, from the want of water, is not very extensive in the low country. Villages appear scattered only here and there.

“ I made as quick a descent of the mountain as possible, that I might reach, before the darkness of night settled upon me, the block of granite near *Junágad*, which contains the ancient inscriptions which, though never deciphered, have attracted much attention. I was able to accomplish the object which I had in view. After examining the block for a little, and comparing the letters with several ancient Sanskrita alphabets in my possession, I found myself able, to my great joy, and that of the brahmans who were with me, to make out several words, and to decide as to the probable possibility of making out the whole. The taking a copy of the inscriptions I found, from their extent, to be a hopeless task ; but as Captain LANG (of the *Katiawád* Political Agency), had kindly promised to procure a transcript of the whole for me, I did not regret the circumstance.”

“ I suggested to Captain LANG, a plan for taking a facsimile of the inscriptions. I recommended him to cover the rock with native paper slightly moistened, and to trace with ink the depressions corresponding with the forms of the letters. The idea of using *cloth*, instead of paper was entirely his own ; and to that able officer, and his native assistants, are we indebted for the very correct facsimile, which he presented to me, and which I forwarded to you some months ago for your inspection and use. During the time that it was in Bombay, it was mostly with Mr. WATHEN, who got prepared for yourself, the reduced transcript, and with a native, who at the request of our Asiatic Society, and with my permission, prepared a copy for M. JACQUET of Paris. I had commenced the deciphering of it, when you kindly communicated to me the discovery of your alphabet ; and I at once determined that you, as was most justly due, should have the undivided honour of first promulgating its mysteries. Any little progress which I had made in the attempt to forge a key, was from the assistance which I had received from the alphabets formerly published in your transcendantly able work, Mr. ELLIOT's Canarese alphabets, and the rigid deductions of VISHNU SHÁSTRÍ, my quondam pandit to whom Mr. WATHEN has expressed his obligations in his paper on some ancient copper-plate grants lately sent by him to England. VISHNU's palæographical studies, I may mention, commenced with Dr. BABINGTON's paper, which I showed to him some years ago ; and they were matured under Mr. WATHEN. I mention these facts from my desire to act according to the maxim, *Suum cuique tribue*.

“The rock containing the inscriptions, it should be observed, is about a mile to the eastward of *Junágad*, and about four miles from the base of *Girnár*, which is in the same direction. It marks, I should think, the extremity of the *Maryádá* of the sacred mountain. The Jainas, as the successors of the Bauddhas, greatly honor it. They maintain *pinjarápur*s, or brute hospitals, like the Banyas of Surat, in *many* of the towns both of the peninsula and province of *Gujerát*; and practise to a great extent the *philopsychy* of the long forgotten, but now restored, edict of ASOKA.”

The rock or large stone above alluded to, appears to contain all three inscriptions. On the eastern side facing the *Girnár* hill are the edicts of ASOKA in the old character :—on the western side the Sanskrit inscription which I have selected as my theme for the present occasion; and on the southern side a third inscription longer even than either of the others, but somewhat more modern, and less distinct.

The western inscription, then, is near the top of the stone :—it covers a surface of ten feet and a half in breadth, by five feet in height. The stone is a good deal cut or worn away in two places, but it does not seem that any thing has been lost on the outer edges, the irregularities there visible proceeding from the contour of the stone. Capt. LANG's facsimile is lithographed on a very reduced scale in Pl. XV.

The character is only one remove from the Buddhist alphabet of *Girnár*. It has the same mode of applying the vowel marks *e*, *a*, and *o*, in particular to those excellent test letters *n*, *ṇ*, and *m*. The vowel *i* is still formed of the three dots: but I need not more fully dilate upon its peculiarities since I have already inserted the whole alphabet, as No. 3 of the comparative table in last month's Journal. A few also of the principal passages I now subjoin on a larger scale in Pl. XVI. as upon them rests the value with which this inscription will doubtless be regarded in Europe as well as in India, on account of the historical information it is calculated to afford.

Once transcribed into modern *Nágari* a Sanskrit inscription becomes easily intelligible through the aid of a skilful pandit. In the present instance it has only been necessary to change two or three dubious letters to enable KAMALÁKÁNTA to explain to me the contents of all the continuous passages which still exist on the stone, and it is fortunately not very difficult to imagine from the context what must have occupied most of the spaces now eroded or mutilated.

I have contented myself with a very small copy of the original text, because hereafter it may have, like the *Allahabad* inscription, to be done over again!

Transcript of the Junagarh inscription. No. 1.

1. सिद्धं इदंतटकां सुदुर्गतं गिरिनगरादापाद (15 letters) कपले ?
विस्तारयामोच्छ्रयणैः सन्धिबन्धदृढसर्वपादिकतत्पर्वतपा (र्षे)
2. (पा) दप्रतिस्पर्द्धिषु (30 letters) (उ) जावेन कृत्रिमेण सेतुबन्ध-
नोपपन्नसुखुविविधवप्रनदीपरि णा (ह),
3. दृढ विधान (35 letters) (वि) नोदिभिरनुग्रहेर्महत्युपचये
वर्त्तते तदिदं राज्ञो महाक्षत्रपस्य आग्रहे (ण)
4. तन्नाम्नः स्वामिचष्टानस्यधे (34 letters) पुत्रस्य राज्ञो महाक्षत्र
पस्य गुरुभिरभ्यस्तनाम्नररिदाम्न वर्षेद्विसप्तति त द रेः
5. मार्गशीर्षबज्जलपक्षे (30 letters) सृष्टृष्टिना पर्जन्येन एकार्णवी
भूतायामिवष्टिभ्यां—वृतायां गिरेरुर्जयतः सुमलिनीकृतायां
6. पलेष्टिनोप्रभृतीनां नदीनां अतिमात्रोद्वेगः सेतुम (20 letters)
प्रमाणानुरूपप्रतिकारमपि गिरि शिखरतखटाट्टालेरुपतल्पद्वार
शरणाच्छ्रयविध्वंसिना युगनिधनपल
7. शसरे मधर वर्गेण वाय्ववाप्रम स्थिते सलिले विक्षिप्तजर्जरीकृताव
(14 letters) क्षिप्ताम्न वृक्षगुल्मलताप्रतानं सुनदीवलधित्युद्धा
टितमस्ति चत्वारि हस्तशतानि विशालतराण्यायतेन एतावन्त्ये
वविस्तीर्णेन
8. पंचसप्ततिहस्तेन—मगाहेन भेदेन विस्तृतसर्वतोयमरुधन्वकल्पे
मतिभ्रंशदृढ (10 letters) स्यार्थे मौर्यस्य राज्ञः चन्द्रगु (मस्य)
राष्ट्रधनवश्येन पुण्यगुप्तेन कारितं अशोकस्य मौर्यस्य तोयवनराजेन
नुवस्येनाधिष्ठया
9. बलभीभिरलंकृतं तत्कारितया च राजानुरूपरतविधानया तस्मिं
(पादे) दृष्टया सुनद्याविस्तृतसेतु (9 letters) ना आगर्भात्प्रभृत्य
विहृतसमुदित राजलक्ष्मीधारणगुणतस्सर्ववर्णैरभिगम्य रक्षार्थं
पतिलेवृतेन स्थुभ्रेणोच्छ्वासात्पुरुषवधनिवृत्तिकृता
10. सत्यप्रतिज्ञेन सूदृढतेन संग्रामेष्वभिमुखागतसदृशशत्रुप्रहरण

वितरणत्वविगुणरि (10 letters) कारुण्येन स्वयमभिगतजनस्य च
प्रणिपत्तीना(मु)पशरणदेन (2) स्य व्यटमु गरुयादिभिरनुपभ्रष्ट
पूर्वं नगरनिगम

11. जनोपजनस्ववीर्यार्जितानामनुरक्तसर्वप्रकृतीनां पूर्वपराकराव
न्तीनूप व्रजानर्त सुराङ्गश्च (5 letters) वरकुकुरा किराततिषदा
दीनां समग्राणां तत्प्रभाव (7 letters) कामविषयाणां विषयाणां
पतिना सर्वक्षत्राविष्कृत
12. वीरशब्दजातोत्सुकविधेयानामाद्यैधेयानां प्रसह्योत्सादकेन दक्षि
णापथपतेस्सातकर्णेर्द्विरपि निर्व्याजमवजित्यावजित्यसम्बन्ध स्थिर
राष्ट्रानुपालनात्प्राप्तयशसा मा (10 letters) रवि जयनभू
भृदध्वज प्रतिष्ठापकेन यथार्थहस्तो
13. च्छयार्जितार्जितधर्मानुरागेण शब्दार्थगान्धर्वीपायाद्यानां विद्या
नां महतीनां पारणधारण विज्ञानप्रयोगविपुलकीर्तिना तुरग
गजरथधूर्यासिचर्म नियुद्धदृढ (10 letters) परवललाघव सौष्ठव
क्रियेण अहरहर्दानमानान(न्दिना)
14. विमानशीलेन स्थूललक्ष्णयथावत् प्राप्तैर्बलियुक्तभाग कानकराज
त वङ्ग वैदूर्यरत्नप्रचय विस्यन्दमानकोशेन (3) स्फुटलघुमधुर
चित्रतानुशब्द समाधिसरलकृतार्थ नप्रमाणमता
त्मना खैरगतिवर्ण सारसत्वादिभिः
15. परमलक्ष्णव्यञ्जनैरुपेत काङ्गमूर्तिना सयमटयतो च महाक्षत्रप
नाम्ना नरेन्द्रेण कान्त्या स्वयंवरणमाल्यप्राप्तदाम्ना महाक्षत्रपेण रुद्र
दामा (25) त्यंघर्म्मकीर्तिवृद्ध्यर्थे अपिदयितातुराधिष्ठित
16. प्रणयकृपाभिः धैर्येण (वर्दजनं) स्वस्मात् कोशान्महताधनौघेन
सुनतिमहताव्याकुलेन त्रिगुणदृढतरविष्टरव्यायामसेतुविध—
(20 letters) दर्शनतरंकारितमिति
17. महाक्षत्रपस्यानुमतसचिवकर्मप्रभावैरमात्यगुणसमुद्युत्स्थाप्यतेमहा
त्नोद्भटस्यान्वसेफविप्रवरमतिभिः प्रत्यङ्गतदभि

18. पुनःप्रतिबन्धनैरस्यार्हहाभूता सुप्रजासु इहाधिकृताने पारजानपद
जनानुग्रहायै उद्यवेन कृत्स्नेन कारितं अपाङ्कृतौघाभिनाक्तत्रियु
क्तौङ्कृतौ घाभिनाक्तौत्रियुक्ते प
19. पल्लवापुन कुले प्रमाद्येनत्रेण प्रतिज्ञातेन यथावदार्धधर्मव्यव
हारदर्शनैरनुरागमभिवन्धयता शक्तेन दान्तेन पत्तिवेष्टितेनार्थ
महार्थेण
20. अधितिष्ठताधर्मकीर्त्तिं यथांति भर्तुरभिवर्द्धयतानुष्ठितमिति ॥

Translation.

(Be it) accomplished!¹ This very impassable bank at the foot of the hill city, (*Girinagara*²) (15 syllables) with wide expansion and with great depth of strong masonry³ carried all along the bottom of the said hill, filling up the interstices or irregularities in even layers up to the height of the bank (30) by a chosen (architect?) the foundations of the bridge being completed most substantially by embanking off in various ways the water (50) by workmen cheered on by kindnesses, and with a vast abundance of materials was in progress. Then the work continued under favor of the *rāja Mahākshatrapa* (the great patron of the warrior class) who was named *Swāmi Chastāna* (and was completed) in the seventy-second year of his son, the *Kshatrapa*, mindful of the lessons of his instructors, the *rāja* named *ARIDĀMA*⁴ in the dark half of the month of *Mārgairsha* (afterwards) by an immense inundation brought on by heavy rains converting the whole surface of the earth into an ocean, and making a mass of mud of the hill of *Urjayata* (?)—..... by the tempestuous waves of the *Palesinī* river, and its several tributaries, the bridge (was carried away. Subsequently) in conformity with the original design (it was) repaired with blocks of stone from the hill, remedying the difficulties of the passage way with numerous long beams and trees laid across,—and skilfully uniting them..... (A second time) by the force of the waves in a fierce hurricane and flood

1. The same invocation, *siddham*, is used in the Skandagupta inscription, Pl. I.

2. The vowels of the word *Girinagar* are wanting, but the name cannot be mistaken, being modern *Girnār*.

3. *सन्धि बन्धि*, the joining or cementation of masonry, is now called by a similar name *jorāi*. I suppose the piers or foundations to be intended.

4. *नाम्परिदाम्न* (sic)—if this is correctly traced it contains a grammatical error in the substitution of *र* for *ः* after *न*. The name might be read *Atri*; or *Rudra*, were the preceding word *namno*. The date may be read either *varshe dvaisaptatila* (me) followed by numerals,—or *Ari damni nashte dvaisaptati vatsare*, in the 72nd year after the death of *Aridāma*. As there is a space after *dvi*, *sata* may be also supplied, making the date 270.

(it was) broken down and much damaged, (after which) with stones and trees and piles ⁶ and massive beams ⁶ stretched across it was again put into complete repair, with an indestructible embankment having a length of four hundred cubits, and in like manner having a breadth of seventy-five cubits, in a wonderful manner taking out all the water and laying dry the bed of the river ⁷ by PUPYA GUPTA, the territorial treasurer of rája CHANDRAGUPTA MAURYA, (this) was caused to be done : and by the *Yavana* rája of ASOKA MAURYA, (named) TUSHASPA, it was ornamented with cornice and parapet, and with an artificial canal visible there, over which the bridge also extended, in a manner worthy of the approval of the rája.....(Afterwards) by him, who, being predestined from the womb to the unceasing and increasing possession of the fortunes of royalty, was invited by all classes waiting upon him for the security of their property—to be their king :—who from clear intelligence has not suffered the sacrifice of animal life ;—who is faithful to his promises—who is courteous in speech,—who in battle opposed face to face with an equal antagonist and threatening to discharge his weapons,—compassionates his yielding foe,..... who gives hope to those of their own accord repairing to him to beseech for succour.....preserving the ancient customs of the town uninfringed by the proud and insolent ;—who is lord of the countries⁸ of *Avanti*, *Anupa* (?) *Vrija*, *Anartta*, *Surashtra*, *Savara*, *Kukúra*, *Kiráta*, *Tishat* and others, all conquered by his own might, and maintained in their former prosperity, and all their inhabitants both high and low converted into obedient subjects—all these countries, under his majesty (forming one empire) and furnishing every object of desire and gratification :—who is the powerful leader of an army obeying him fondly as one born with the title of a renowned hero ;—who, after more than one conquest of SÁTKARNI the king of *Dakshinapatha* by merely a

5. अनुत्पलद्वारशरण, the introduction of *Dwára* here is hardly intelligible, perhaps we should read *anutalpát vári sarana uchhraya vidhansiná*—the remover of the impediments to the flow of the current from the beams and materials that had fallen into the river.

6. गुल्मलता—the distinction of *golas* and *lattas* in the modern wood market is that the former are unsquared, and the latter, squared timbers.

7. I have given to this obscure passage the best sense in which I think it explicable, as the breadth, 75, cubits could hardly have been that of the bridge itself.

8. Most of the countries enumerated here are to be found in the *Puránas*. *Avanti* is well known as *Oujein* ; *Vrija* is the country about *Mathura* ; *Anartta* is mentioned with *Comboja*, *Sindhu*, and *Yavana Márgana*, (*As. Res.* VIII. 339, 341,) and is therefore probably in the Panjáb :—*Kukura* is enumerated in the same list with *Benares* : *Savara* is called a wild tribe in the southeast :—there are three *Kirátas* named—two (*Chanda* and *Rajya*) in the northeast and one in the south (pp. 339, 41)—*Tishat* may perhaps be read *Toshali* in *Cuttack* of which more hereafter.

threat (of attack), concluded a peace (with him) for the security and protection of his country, and again set up his royal banner ;— who has a natural taste for exercising and improving the strength of his hand, according to the rules* ;—who is renowned for his skill in the practice of all the celebrated sciences, of grammar, of polity, of singing, of expedients (mechanics ?) and the rest, the theory of which he has gone through and thoroughly retained ;—who powerful in horses, elephants, chariots, oxen, weapons, and armour exceedingly clever in breaking down the strongholds† of his enemies ;—who is every day happy in the bestowal of alms and mercy ;—who is affable in manners ;—whose treasury is abundantly filled with gold, silver, tin, and the lapis lazuli jewel, brought as tokens of his greatness, offered to him as his just and proper measure of tribute ; who (understands) the precise etiquette of (courtly terms,) their sense, measure, sweetness, rarity, who is of correct bodily proportion, excellent in gait, color, vigour, and strength, &c. ; in form and limb of most auspicious aspect ;—who of his own (merit ?) has the title of ‘patron of warriors and king of men ;’—who is crowned with the garland‡ of flowers won in the *Swayamvara* ceremony, (or tournament) ;—by this great patron of the warriors (or Satrap) RUDAR DA‘MA‘ zealous for the increase of his religious fame and in kindness and compassion for females and the lame and sick : and with a most liberal expenditure from his own treasury (for the people ?) ;—consenting at once to the petition of the chief citizens ;—the construction of this bridge with threefold strength after due inspection was ordered to be done ;—thus.

By the dignified in virtue, the chief minister of the great Satrap the road was also lined with trees conferring pleasure (on the passers by).—

Further, by him who out of favor to the inhabitants of town and country restored with substantial repairs the excellent condition (of the bridge) to the good subjects of this metropolis,—who made it impregnable to the torrents of water by the descendant of the *Pahlaván* tribe, MAVYA, the contractor, who has finished his work precisely on the terms of his estimates and plans, so as to give satisfaction,—the strong

* By inadvertence I have omitted the repetition of the word *arjita* अर्जितार्जित at the beginning of the 13th line in the lithograph.

† Reading परबलालय, but the text may be read बललय making it ‘destroying his enemy’s force,’ or again it may be परबललघवेसैष्टवक्रियेन, well skilled in diminishing the power of his enemies. (The Nágari text has been altered thus).

‡ In former times, Hindu maidens chose their favorite among a band of suitors by throwing a garland over his neck. A play on the name *Dámá* is intended.

man and overcomer of difficulties, surrounded by his overseers (*pattis*),—by him, the establisher of religious fame, and the increaser of the glory of his master, was this work executed*.”

Observations.

I have already remarked that in this inscription for the first time we find the name of the great CHANDRAGUPTA the contemporary of ALEXANDER recorded on a genuine monument of antiquity. There can be no doubt of his identity because his family name MAURYA is added, and further the name of his grandson, the no less famous ASOKA immediately follows designated also by the same family cognomen of MAURYA. (See Pl. XIX. for the passages containing the two names.)

On first discovering this important fact and perusing the mutilated fragment with KAMALÁKÁNTA pandit, as well as we could make it out, I thought myself in possession of a record of the time at least of ASOKA, by whose deputy or viceroy the bridge seemed to have been completed. The long string of complimentary epithets which fill up the bulk of the inscription being in the instrumental case, and thus agreeing with the *Yavana rájena* of the upper sentence.

This turns out not to be precisely the case. A considerable period is embraced in the history of the *Gīrnār* bridge—partly anterior and partly subsequent to the time of CHANDRAGUPTA :—thus it seems originally to have been erected by a prince named SWA'MI CHASHTA'NA a name rather Persian than Indian :—it was then either repaired or more probably completed by his son ARIDA'MA' or ATRIDA'MA' in the month of *Mārgasirsha* or *Agrahayana*—in the year 72, but the letters which follow are unfortunately illegible, and we are left in the dark as to the era then in use for recording events.

The bridge was then totally destroyed by an inundation of the river *Paleshini*, a name I cannot discover in the map of *Gujerat*. Thus temporarily repaired perhaps by the inhabitants it was again carried away; and a more thorough reparation was commenced under orders from CHANDRAGUPTA MAURYA by his prefect of the province PUPYAGUPTA, and completed in the reign of ASOKA his grandson thirty or forty years afterwards by his *Greek* officer, for so I think we may understand *Yavana rája*. The brahmanical population of the distant province of *Suráshtra* probably had but little affection for the Buddhist monarch who is not even honored in the inscription with the title of *rája*—being simply styled ASOKA the MAURYA! The name of his Greek employé is not very

* *Anushtitam* अनुष्ठितं, accomplished. The same word is used at the foot of the *Allahabad* inscription—(vol. VI. 978). But I know not how it there eluded the apprehension of the pandit who made me write in lieu of it अवस्थितं 'remaining firm or fixed.'

plain on the cloth; it may be read तुषस्तेन—‘by *Tushaspa*’ a name evidently of Persian termination like *Gushtasp*, *Lohrasp*, &c. from *asp* a horse (Sans. *asva*). Were the name written *Tushasva* we might have supposed it a translation of the Greek name *Philippos*, having precisely the same meaning; and we might have argued that some adventurer having from his military prowess obtained service under ASOKA, had added those new provinces to his empire, which we find noticed in his religious edicts, and had at length usurped a considerable share of power to himself; being in fact the very *Yona* rāja whom the Muhammadan historians state to have dispossessed SINSAR CHAND’s grandson. But I am sensible that I have been frequently guilty of running ahead of prudence with my deductions, and I must consequently draw in a little: for it may be possible after all that the word *yavana* does not exist. It is preceded by the letter न which I have rendered न, ‘further’ ‘too;’ but the expletive is somewhat out of place, and some may prefer the reading अशोकस्य नोयवनराजेन, ‘by ASOKA’s rāja (or lord) of the floods and forests.’

To continue my history of the bridge:—after the last repairs although no accident is mentioned, we must conclude that such had occurred, and that the bridge was rebuilt by the prince upon whom the largest share of the eulogistic inscription is lavished. The opening passage may perhaps be recoverable on a careful re-examination of the stone. Towards the close it does indeed mention that on the petition of the inhabitants (backed by female influence?) he strengthened the structure three-fold at his own expense. Now the name of this prince is RUDRADĀMĀ, destined, it says, from his cradle to be elected to the throne,—his title is *Rāja Mahi Kshatrapa* the same as that of ARIDĀMĀ and SWĀMI CHASHTĀN. We may therefore view him as a scion of the old dynasty replaced on the throne after a temporary subjugation of the province by the *Maurya* sovereigns of India proper.

It is curious and most interesting to those whose attention is engaged in the subject to observe how different ancient monuments throw light upon one another and help to their mutual development. The name of RUDRADĀMĀ recalls to our memory the series of *Surashtra* coins described in my journal hardly a year ago. Among the eleven names there distinguished, RUDRADĀMĀ was conspicuous as following just such a break in the line as would be made by the cause above alluded to. Again, the title then read as *Mahā Kṛitrīma*, the elected king, on second examination agrees precisely with the present more palpably developed *Maha Kshatrapa*. On referring to the plate of Mr. STEUART’s coins sent to me by Captain HARKNESS I find that I so read the

word at first and noted it in pencil, but gave it up on the pandit's ignorance of such having ever been a title in use. Had I possessed at that time a comparative alphabet to consult, I should immediately have perceived that the right hand twist at the foot of the *k* (see pl. XIX) did not *then* denote as it does now the vowel *ri*, which was formerly turned in the contrary sense; but that it was the cerebral *sh* subjoined to the *k* (forming *ksh*), exactly as it occurs on the *Junagarh** inscription. The *p* also deceived me, being more pointed than the same letter in the word *putra*; but on examination of the coins in my possession I find it generally rounded off as *U*, and never crossed below as the *m* (X). (See the plate.)

The word क्षत्रप : *kshatrapas*, although wholly unknown as a sovereign title to modern Hindus, and not to be found in their books, is familiar to the reader of the Grecian history of ancient Persia, with merely a softening of the initial letter, as ΣΑΤΡΑΠΗΣ, *Satrapa*, the prefect of a province under the Persian system of government. I do not believe that the etymology of this name has ever been traced. It is called a Persian title, but the Persian dictionaries only contain ستراب *Satrab*, as an obsolete term for the governor of a province, without explanation of its origin. In Sanskrit it signifies the ruler, feeder, or patron of the *kshatra* or military class; and now that we know the ancient language of Persia east of the Euphrates to have been a near dialect of the Sanskrit, we may conclude that *Satrapa* had the same signification in *Ariana*. It is not for me in this place to speculate on the purport of the term in the Persian polity, but it is a fact well known that the effeminate Persians at a very early period were in the habit of governing their numerous tributary provinces by mercenary troops. The same system, and the same denomination of *Satrap*, was adopted and retained by the Macedonian conqueror, both when Greek and native officers were employed: and instances are frequent enough of the *Satraps* assuming to themselves independence and a regal title.

The *Satrapies* of the ancient Persian monarchy are not supposed to have extended across the Indus. If in ALEXANDER's time this limit was first transgressed, it was not long before the Bactrian Greeks or the Parthians made themselves masters of *Sindh*, *Cutch* and *Guzerat*†. The present inscription may incline the learned to conclude that *Suvrashtra* was before then one of the *Satrapies* of the empire, from the name of CHASTAN, the *Satrap*, who is stated to have first erected the bridge, and who must have preceded CHANDRAGUPTA. RUDRA, VIS-

* I have before remarked that this town seems called after the Greek prince, *Yavanagaḍa*.

† See J. A. S. vol. VI. page 385 for VINCENT's authority on this subject.

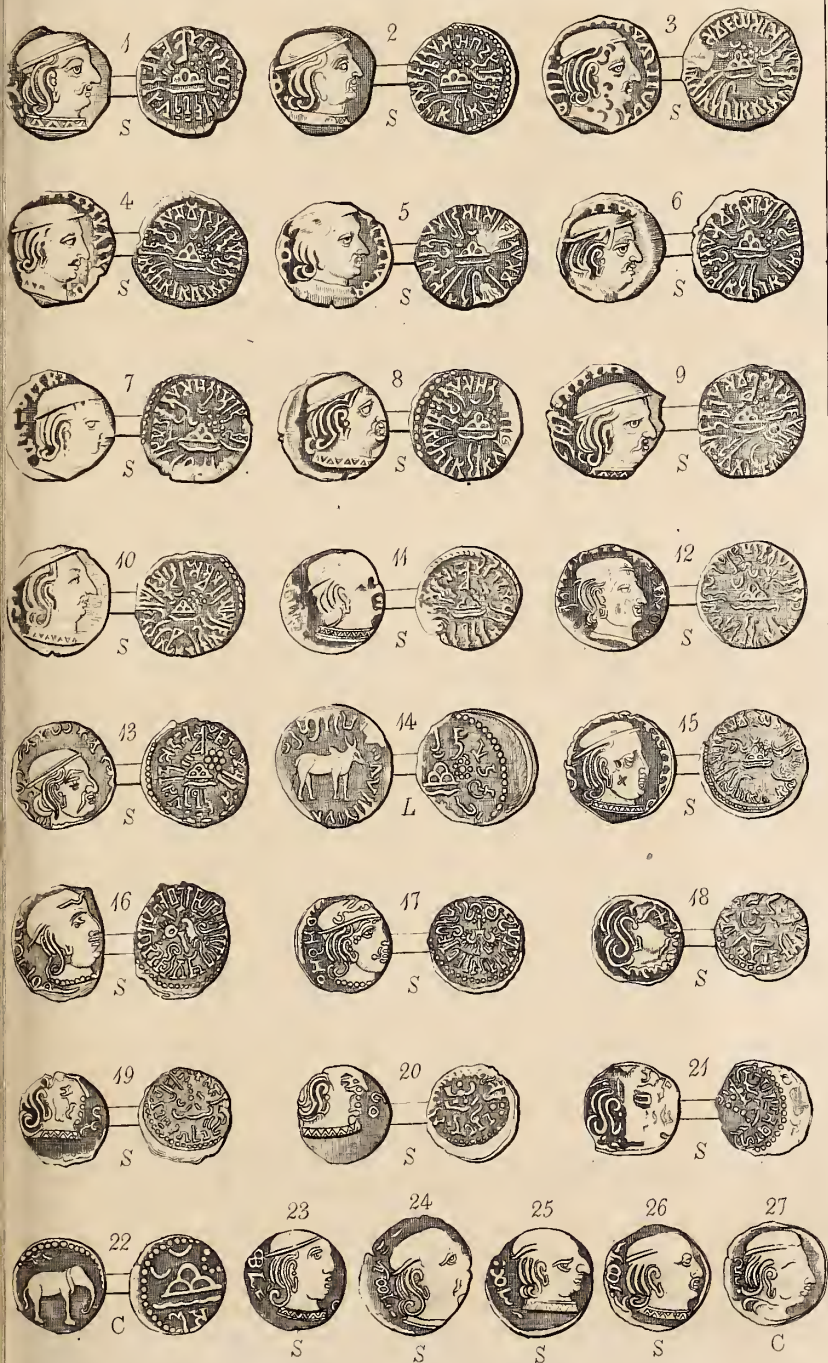
WA, and others of the list are more Indian in sound. It is remarkable that in the long string of epithets applied even to RUDRA-DĀMĀ the chosen *Satrap*, there is none which bears the slightest allusion to Hindu mythology; while on the other hand the coins of the whole dynasty bear an emblem which we have hitherto considered either of Mithraic or of Buddhist import. The name *Jinadāmi* (wearing *Buddha* as a necklace) is decidedly Buddhistic; and the epithet applied in the inscription to *Rudradāmi*,—‘who from right persuasion never put any living creature to death’—proves that RUDRA’s opinions were at any rate influenced by the proximity of the important Buddhist establishment at *Girnār*.

The style of prose eulogy employed by the composer of the inscription puts us much in mind of our old friend, the *Allahabad* column. It has its corresponding list of countries conquered and equitably ruled: but few of the names are, as might be expected, the same in the two. *Avanti* or *Ujjayani*, and *Vrija* (if the latter name be correctly read) are of the most importance as implying that the elected kings of the *Sāh* family, or the Satraps of *Surāshtra* as we may now more properly call them, had acquired dominion over all the central portion of India, driving back the *Magadha* sovereigns, (who had previously spread their hands to the farthest west,) into their own Gangetic limits. The other places *Anartta*, *Kukura*, &c. are probably provinces to the northwest, out of India proper. One other name however deserves our particular attention; the king of the *Dākhan* (*Dakshinapatha*), who was twice threatened with an invasion, and brought to sue for peace. His name is SĀTA KARNI, the same which occurs several times in the lists of the *Andhra* kings extracted by WILFORD from the *Bhāgavat*, and other *Purānas*. It is a patronymic, from शतकर्णि ‘the hundred-eared’ which was doubtless the name of the founder of the family: and SĀTAKARNI was probably the surname of all the line, though not repeated every where in the versified enumeration of the *Purānas*.

The locality of the *Andhra* dominion has hitherto been as uncertain as the period of its sway. WILFORD says in one place that the *Andhra* princes ‘made a most conspicuous figure on the banks of the Ganges for above 800 years*’;—again that *Andhra* and *Koshala* (near *Kalīnga*) are used synonymously by some Hindu authors:—again that SRI CARNA DEVA took the title of king of *Tri-kalīnga*, or of the three shores, to the east and west and south of India†. From our inscription we perceive that the general term of *Dakshinapatha* agrees well with the latter definition, and we may rest content with denoting the *Sātakarnis* as kings of the *Peninsula*.

* As. Res. IX. 101. † Ditto, 104.

SAURASHTRA COINS.



Further, as to their age, we find one of the name contemporary with RUDRADÁMA who followed ASOKA (we cannot say at what precise distance.) WILFORD, brings them much lower down, from the third to the sixth century after Christ, in order to square the last of their name, *Pulomarchi* or *Puliman*, with the *Pulomien** of the Chinese.

He is forced to confess however that there were *Andhras* at the beginning of the Christian era, when, says PLINY, ‘the *Andaræ* kings were very powerful in India having no less than 30 fortified cities, an army of 100,000 men and 1000 elephants†.’

We must therefore consent to throw back the *Andhras*; and, instead of requiring them to fall into a general and single line of paramount Indian kings as WILFORD would insist, let them run in a parallel line, along with the lines of *Suráshtra*, *Ujjain*, *Magadha* and others,—individuals of each line in turn obtaining by their talent, prowess or good fortune a temporary ascendancy over his neighbours: thus at length we may hope to fulfil Captain Ton’s prophecy,—“let us master the characters on the columns of *Indrapreshta*, *Poorag*, and *Mewar*, on the rocks of *Junagarh*, at *Bijollie* on the *Aravulli*, and in the Jain temples scattered over India, and then we shall be able to arrive at just and satisfactory conclusions (in regard to Indian history)‡.”

As an atonement for leading my readers into this long digression, I now present them with an engraved plate of all the varieties of the *Suráshtra* group of coins yet found. There is one new name added through the diligence of Lieut. E. CONOLLY. The rest are already known, but I subjoin their corrected readings for the satisfaction of my numismatical friends. The fact of their having a Grecian legend and head on the obverse is now explained; and the date of their fabrication is determined so far that we may certainly place some of the early reigns in the second and third centuries before Christ: to what later period they descend we may also hope to ascertain through the means of other coins which will come to be described along with the third in-

* Quere. Is not *Brahman* written with this orthography in Chinese?

† The name *Sáragan* given in the *Periplus* as of a sovereign that had formerly reigned at *Kalliena* (near *Bombay*) has some resemblance to *Sátakarni*, but I will not build upon such uncertain ground.

‡ Ton’s *Rájasthán*, I. 45, he gives a curious derivation, by the way, of the name of *Junagarh*:

“The ‘ancient city’ *par éminence*, is the only name this old capital, at the foot of and guarding the sacred mount *Gírnár*, is known by. ABUL FAZL says, it had long remained desolate and unknown and was discovered by mere accident. Tradition even being silent, they give it the emphatic name of *Juna* (old) *gurrh* (fortress). I have little doubt that it is the *Asildurga* or *Asilgurh* of the *Grahilote* annals; where it is said that prince ASIL raised a fortress, called after him near to *Gírnár* by the consent of the DABI prince, his uncle.” (See note to page 345.)

scription from *Junagarh*, as soon as we obtain a correct facsimile of it. I may here so far satisfy curiosity as to state that this third inscription, the longest and in some respects the best preserved, though from the smallness and rudeness of the letters it is very difficult to decipher,—is in a more modern character—that allotted to the third century after Christ—or the GUPTA alphabet: and that in the opening lines I find an allusion to SKANDA GUPTA one of the GUPTA family, whose name has also been found upon a new series of the *Suráshtra* coins. The words are ... कीर्त्ति विगुण दपतिः स्कन्दगुप्तः प्रथुयीः चतुर.....(vide Plate XIX.)

We shall thus be able to string together by means of the inscriptions and coins of ancient *Suráshtra* a continued series of names and dates from the time of the *Maurya* dynasty to that of the *Gupta* dynasty of *Canouj* which terminates the catalogues of the *Puránas*.

Dates too did I say?—Yes I am in hopes of adding even actual dates to the series, for I have been fortunate enough to light upon a clue to the ancient forms of the Sanskrit numerals, and to discover their presence on the very series of *Suráshtrian* coins to which I have been just alluding. But here again I must solicit a little patience, while I describe the grounds of this new assertion.

§ On the Ancient Sanskrit Numerals.

The most ancient mode of denoting number in the Sanskrit languages, as in the Greek and Latin, was by the use of letters in alphabetical order. This system we find prevalent in all ancient Sanskrit works, as well as in the Páli, the Tibetan and other derivate systems. There do not indeed appear to be any numerals peculiar to the Páli. In their sacred records, the words are always written at length; they have also the symbolical words of the Sanskrit astronomical works, and what is called the *Varna sankhya*, or numeral classification of the alphabet. The numerals now employed in *Ceylon*, *Ava*, *Cambodia*, *Siam*, have hardly the slightest affinity to one another.

When this system was exchanged for that of the decimal or cipher notation does not appear to be known, or to have been investigated by the learned. Up to the ninth or tenth century of our era, the *Nágari* numerals extant on numerous monuments do not differ materially from those now in use.

In the Gupta class of inscriptions, as far as I know, no numerals had as yet been found until I noticed some doubtful and unknown symbols on the *Bhilsa* monument. In the Buddhist pillar inscriptions the dates where they occurred, were uniformly expressed at full length.

A few months ago, I was engaged in transcribing and reading with my pandit, some copper-plate grants supposed to be of the third century, found in *Gujerát* by Dr. BURN, whose beautiful copies of them, I

hope shortly to make public. In one of these, the date was entered at full in the words संवत्सरे शतत्रयेचतुर्त्रयव्यधिके 'in the *samvat* year three hundred and ninety-four.' A few lines below this, the word ॥ संवत्सर ॥ again occurred, followed by three symbols ॥ ४३५ ॥ , which must of course be numerals : they are more exactly copied in Plate XX; and according to the preceding statement should be 394.

On a second plate in the same manner, the date in words was संवत्सर शत त्रयेशित्यधिके कार्तिक शुद्धपक्षदशां, 'in the 15th of Kartik, *samvat* 380,' and in figures सं ॥ १० कार्तिक शु ६४.

On a third plate the date in words was शतत्रयपञ्चाशित्यधिके कार्तिक पौर्णमास्ये, 'Kartik full moon, *samvat* 385' and in figures ॥ १०४ and ६४ as before : in both of which the same symbols occur for 1, 3, 8, and 5; and the latter figure, much resembling the ancient letter *na*, but slightly altered was again observed on a fourth plate sent me by Dr. BURN from Gujerāt, which did not contain the date in words, thus, सं ॥ १५६.

Much pleased with this new train of discovery, I turned to Mr. WATHEN's paper in the fourth volume of the Journal, in which I remembered his interpretation of the date on a similar grant by Śrī DHARA SENA, as being in the ninth year of the *Vulabhi Samvat* of TOD, corresponding with A. D. 328. Here the translator had no written entry to guide him, nor had he any clue whereby to recognize the numerals which followed the abbreviated *Samvat*, thus, ॥ ३ which we now perceive to be 300, + some unknown unit. I immediately wrote to Mr. WATHEN and to Dr. BURN, requesting them to examine carefully the dates of all other plates in their possession, and from them in return I received all the examples which are inserted in the accompanying plate. From the whole series combined we may venture to assign a certain value to the 1, the 3, the 4, the 5, the 8 and the 9.

The last of these, I could not but remember as the symbol on one of the *Bhilsa* inscriptions which led to so many conjectures a year ago. In the form of \oplus we have evidently our ४, or the year 9, but the three strokes at the side would appear to modify its value, or to be themselves a numeral, perhaps the ०. Then, as we find the preceding ५ has not a dot above it, we may use that also as a numeral and understand the whole ५४ as 2 or 6 or 790 according to the value to be hereafter assigned to ५.

Again in the second *Bhilsa* inscription (page 458, pl. XXVI.) the figure 3 with another is perceived, following the word समन्त and

the last letter may possibly be a numeral also. In Mr. OMMANNEY'S Multay inscription, two numerals of the same class were observed (VI. 868.)

It may also be remembered that in my notice of the *Surúshtra* coins, vol. VI. p. 389, I remarked behind the head on the obverse, besides a legend in corrupted Greek characters, a few strange marks not at all like either Greek or Sanskrit alphabetical characters; to these I now redirected my attention and was happy to perceive that they too were in fact numerals of the same forms and of equal variety with those on the copper-plate grants.

I have arranged at the foot of Plate XII. those specimens in my own cabinet on which the figures are best developed.

Upon bringing the subject to the notice of Dr. BURN at *Kaira*, he wrote me that he had already remarked these symbols on another very numerous class of old coins found in the ruins of the *Gujerát* towns. They are made of lead or tin; and have on one side, in general, a bull, and on the other the triple pyramid which forms the central symbol of the silver hemidrachmas of the *Surúshtra* satraps. I have not found space to introduce them into the present plate, but fig. 22, will serve as a representative of the whole class. It is a finely preserved copper coin most opportunely discovered and presented to me by Lieut. E. CONOLLY, from *Ujein*. It bears the numerical symbols $\Upsilon\lambda$ very distinctly marked under the symbol g . Among the facsimiles of the leaden coins, I find $\Upsilon\lambda\text{:}$ and $\Upsilon\text{B}\text{:}$ with barely room for a third figure, but in one the reading is $\Upsilon\alpha\text{E}$ so that we may venture to place them all in the fourth century of some yet unknown era.

Among the silver coins the variety is greater: fig. 23, which I find by the reverses is a coin of RUDRA SÁH, has the year $\Upsilon\text{m}\text{g}$.

Another fig. 26, also of RUDRA SÁH, has the third figure well developed $\Upsilon\text{m}\text{g}$.

Fig. 24, of the son of RUDRA DÁMÁ (the repairer of the *Girnár* bridge), has apparently the numbers, $\Upsilon\text{B}\text{:}$ or 390.

Fig. 12, from *Ujein*, RUDRA SÁH II. has $\Upsilon\lambda\theta$ the first 3 rather faint. In a coin of VISWA SÁH, given to me by Mr. WATHEN, similar to fig. 9, of the plate, the date is $\Upsilon\theta\text{E}$.

Fig. 25, is a well brought out date $\Upsilon\alpha\text{:}$ on a coin of ATRI DÁMÁ, son of RUDRA SÁH, in my cabinet: the coins of the same prince in Mr. STEUART'S plate, and one also of AGA DÁMÁ shew traces of the same second figure.

Now, although the succession of the Satraps or SAH family, as given in last volume, page 338, rests but on slender evidence in some points; still where the names of father and son are consecutive, we may rest with confidence on it in fixing the priority of such of our newly found numerals as occur on them respectively.

We must for the sake of perspicuity, repeat the list with the addition of the dates as far as we have traced them :

Regal Satraps of Suráshtra.

- 1 K. RUDRA SÁH, son of a private individual SWÁMI JINA DÁMÁ
- 2 K. AGA DÁMÁ, his son.
(Here the connection is broken.)
- 3 MK. DÁMÁ SÁH, (no coins.)
- 4 MK. VIJAYA SÁH, son of DÁMÁ SÁH.
- 5 K. VIRA DÁMÁ, son of DÁMÁ SÁH.
- 6 MK. RUDRA SÁH, son of VIRA DÁMÁ, *Samvat*, $\theta^? \mathfrak{M}$ and \mathfrak{N} :
- 7 K. VISWA SÁH, another son of ditto, ditto, $\mathfrak{N}\theta\mathfrak{E}$
- 8 K. RUDRA SÁH, son of M. K. RUDRA SÁH, ditto, $\mathfrak{N}\mathfrak{N}\theta$
- 9 MK. ATRI DÁMÁ, son of ditto, ditto, $\mathfrak{N}\alpha$:
- 10 MK. VISWA SÁH, son of ATRI DÁMÁ.
(Here the connection is broken.)
- 11 MK. SWÁMI RUDRA DÁMÁ, (no coins.)
- 12 MK. SWÁMI RUDRA SÁH, his son, *Samvat*, $\mathfrak{N}\mathfrak{M}\mathfrak{G}$ and $\mathfrak{N}\mathfrak{B}^\circ$

The two last names being insulated from the rest were on the former occasion placed by me before DÁMÁ SÁH, because the form of the letter *j* seemed of the earlier type. Since then, I have learnt that the turning up of the central stroke of the *j* constitutes a vowel inflection. I now therefore bring the two SWÁMIS to the foot of the list on the plea that all figures must have precedence of the 9 or \mathfrak{B} . In the same manner we may now argue that θ precedes \mathfrak{N} , this figure α and the latter again \mathfrak{M} .

To aid in prosecuting my inquiry, I begged KAMALÁKÁNTA, to point out any allusions to the forms of the ancient numerals, he might have met with in grammars or other works; but he could produce but very few instances to the point. One of these is to be met with in the *Kātantra Vyakarana*, a work of BELÁLA SENA'S time, where the conformation of the four is alluded to in these words,

स्त्रिय युगाकृतिश्चतुरङ्गो विसर्गश्च

Like a woman's breast is the figure four, and like the visarga;

and the visarga is further explained by a passage in the *Tantrā-bhidhāna*, a more modern work still, dated in 1406 *Saka*.

द्विठः खादानलिया ठकारेणवर्णसाम्यात् विसर्ग

The name of visarga is 'two ths,' 'Swāthā,' *anālapriya*,—because the visarga has the form of the letter th(O).

This merely alludes to the modern form of the 4, which exactly resembles the Bengali visarga.

The oldest allusion he could furnish, was the following on the form of the 6 from PINGALA's Prākṛit Grammar.

कगुरवङ्कटमनो अक्षोलङ्घेद सुदृक्कृत अक्षे

"The guru mark* is like the figure 6, crooked, and of two strokes: it is called also *lahu* (*laghu*), it is also denoted by one stroke or one minute."

This passage evidently alludes to a form of 6 more resembling the Bengali than the present Nāgari type.

Another channel through which I was in hopes of tracing the ancient ciphers was the numerical system of those Indian alphabets which bear most resemblance to the forms of the earlier centuries, such as those of *Cashmīr*, &c. In the specimens of these, which I have introduced into the plate for the purpose of comparison, it will be seen that the three has certainly considerable affinity to our ७; while the one, and five approach nearly to our १ and ५. There is a faint resemblance, in others of the group; but some again are totally changed.

The Tibetan numerals (of the seventh century) do not yield much more insight into the matter. They are, we may say, one remove backwards from the Bengali numbers—the 1, 2, 3 and 5, only agreeing better with the Nāgari forms. The 1, however, agrees exactly with one of the ancient figures on the coins, and this has been my inducement to consider the latter as 1.

Upon regarding attentively the forms of many of the numerals, one cannot but be led to suppose that the initial letters of the written names were, many of them, adopted as their numerical symbols. Thus in the Tibetan 5 ཨ, we see the ५ or *p* of the same alphabet, the initial of *puncha*. The same may be said of the Cashmirian, and the modern Hindi form ५ and indeed in some measure of the ancient forms ५ and ५.

Again the Tibetan 6 ས, resembles the *ch* २ of that alphabet: the Ceylonese form is exactly the *ch* of its alphabet; and there is an equally marked connection between the Nāgari ६ and the ६ *chha*, which is the common name of this numeral.

* i. e. The mark used to denote a short quantity in prosody and in music, which is formed ३.

On the same principle in the absence of other argument, we may set down the \aleph of our new series as 7, being identical with \aleph the initial of *sapta*.

The modern ३ \mathfrak{z} , has no small likeness to the *tr* of the older Nāgari alphabets : nor does the २ differ much from *d* ; but these resemblances may be more ideal than real ; for by an equally facile process of comparison they might be both derived from the Arabic figures, as might other members of the series, as 7 and 8, in the Nāgari of the Nepalese coins particularly.

The 9 of the Tibetan, Bengali, Nipalese and Burmese numerals is precisely the *l* of the ancient alphabets. Now in the allotment of the vowels numerically, the *li* represents 9 ; but it would appear far-fetched to adopt one insulated example of derivation from such a source.

The 9 however of the *Surāshtra* grants and coins is totally of a different order. It resembles the four-petalled flower of the *bél* or Indian jasmine,—and in the copper plates we find it absolutely represented with a stalk, (see No. 1, of Pl. XX.) Seeking the name of this flower in Sanskrit, *mullika*, the pandit reminded that one of its synonymes was *navi mallika*, which the dictionaries derive from *nava* ‘praised, excellent’—but which may now receive a much more natural definition as the ‘jasmine flower resembling the figure 9.’

It is further to be remarked that in many of the ancient systems, separate symbols were used to denote ten, twenty, &c. in combination with the nine units severally. The curious compound figure seemingly used for the 1 of 15 in the two cases quoted above \mathfrak{E} may be of this sort :—indeed it somewhat resembles the Ceylonese ten (see Plate.) On this point however I can offer no demonstration, nor any other argument, save that we have already more than nine symbols to find accommodation for as numerals.

With all these helps, and analogies, I have endeavoured to arrange the nine old numerical symbols in their proper order in the accompanying plate, so as also to meet the conditions of the succession of dates on the coins of the satraps of *Surāshtra*. In this I am far from being confident of having succeeded ; but having once as it were broken the ice, we may soon hope for a more perfect solution of the curious problem, through the multitude of new, or rather old, monuments which seem to emerge from oblivion just at the time they are wanted, under the united efforts of the Society’s associates in central India. Once having proved that it was customary to date the coin of that early period, we must direct attention again to the monograms on the Bactrian, Indo-Scythic and Canouj coins, which may turn out to be also used numerically.

The numbers then which form comparison with foreign and modern native series as well as the other considerations above given, I have finally adopted are as follows :—

1	2	3	4	5	6	7	8	9	10 ? 0
१ ^१	० ^१	५	५	५	५ ^१	५	५	५	५ :
varieties ?	०	५	५	५				५	५

Before concluding this division of my theme, I may be expected to explain in what era the dates of the *Suráshtra* coins can be expressed, so as to place SWÁMI RUDRA DÁMÁ, whom we perceive in the inscription to have followed at some reasonable distance ASOKA himself, at the end of a fourth century or about the year 390. If the *Vikramáditya* or *Samvat* be here intended, he will fall after the close even of the Arsakian dynasty of Persia, when the Greek was disused, and the arts had greatly deteriorated; when moreover the form of the Sanskrit character had undergone considerable change. If we take the Seleucidan epoch, which might have been introduced in the provinces tributary to *Syria*, RUDRA will have reigned in A. D. 89. If lastly out of deference to ASOKA's temporary supremacy in the *Gujerát* peninsula, we take the Buddhist era, then 543—390 will leave 153 B. C. about a century after ASOKA, and in every respect the period I should like to adopt were it possible to establish any more certain grounds for its preference. The most perplexing circumstance is that the grants of Balabhî dynasty are also dated in the third (or fourth) century—and that it is hardly possible to consider their dominion as contemporary with those of the satraps. For them indeed we must adopt the *Vikramáditya* era; whatever may be determined in regard to the one before us.

Explanation of Plate XII.

Fig. 1, (from STEUART's plates,) a silver hemidrachma.

Fig. 11, a coin belonging to MULLA FERÖZ of Bombay.

Fig. 13, a coin found by Capt. PRESCOTT at *Palhanpur* in *Gujerát*, presented to me by Mr. WATHEN.

These three coins have all the same legend, but No. 11 exhibits the application of the vowel *i* in two places, which the others want: the legend thus completed is,

Rajna Kshatrapasa Rudra Sâhasa, Swâmi Jina Dâmáputrasa :

'Of the Royal Satrap, Rudra Sâh, the son of the lord Jina dâmâ.'

The title of JINA DÁMÁ 'votary of BUDDHA', is a better reading than *Jina dâmâ*, subduer of that sect, formerly adopted.

Fig. 2, (from STEUART's plates,) a coin of AGA DÁMÁ, son of RUDRA SÁH.

Rájna Kshatrapasa Aga Dámna, Rájna Kshatrapasa Rudra Sáha putrasa.

Fig. 3, (ditto) a coin of VIJAYA SÁH, son of DÁMÁ SÁH.

Rájna Kshatrapasa Vijaya Sáhasa, rájno mahá Kshatrapasa Dámá Sáha putrasa.

Fig. 4, (ditto) a coin of VIRA DÁMÁ, son of DÁMÁ SÁH.

Rájna Kshatrapasa Viradámá, rájno máha Kshatrapasa Dámá Sáha putrasa.

Fig. 5, (ditto) a coin of RUDRA SÁH, son of VIRA DÁMÁ.

Rájno mahá Kshatrapasa Rudra Sáhasa, rájno Kshatrapasa Viradámá putrasa.

Another coin apparently of this RUDRA, in my possession, fig. 26, has a date which may be read 283, I find I have two coins of this prince, (one given me by Mr. F. STAINFORTH.) Colonel STACY has also two of the same; they may be known by the epithet *mahá*.

Fig. 6, (ditto) a coin of VISWA SÁH, son of RUDRA SÁH.

Rájna Kshatrapasa Viswa Sáhasa, rájno mahá Kshatrapasa Rudra Sáha putrasa.

Fig. 7, (ditto) a coin of ATRI DÁMÁ another son of RUDRA SÁH; behind the head, but more distinctly in my own coin (fig. 25) is the date 360?

Rájno mahá Kshatrapasa Atri dámna, rájno mahá Kshatrapasa Rudra Sáha (?) putrasa.

This name is the nearest approach to the ARI DÁMÁ of the inscription, who, however, was the same of SWÁMI CHASTÁNA. Colonel STACY has also a coin of ATRI DÁMÁ.

Fig. 8, (ditto) of the same prince introduced as shewing more clearly the name of his father.

Rájna Kshatrapasa Atri.....trapasa Rudra Sáha putrasa.

Fig. 9, a coin of VISVA SÁH, son of BHATRI DÁMÁ.

Rájno Kshatrapasa Viswa Sáhasa, rájno mahá Kshatrapasa Atri Dámá putrasa.

This coin has a date, which may be read 323, in which case it must precede the last two—the father's name was before read as ATRI DÁMÁ, whence the misplacement.

Fig. 10, a coin of SWÁMI RUDRA, son of SWÁMI RUDRA DÁMÁ, in the obverse, the figures 39 (perhaps 390). Another has 385.

Rájna mahá Kshatrapasa Swámi Rudra Sáha, rájno mahá Kshatrapasa Swámi Rudra Dámá Sáha putrasa.

Fig. 12, a new name, or new as to the second title; RUDRA SÁH, son of the *great* Satrap RUDRA DÁMÁ was presented to me by Lieut. E. CONOLLY; from *Ujein*.

Rajna Kshatrapasa Rudra Sáhasa, rajna mahá Kshatrapasa, Rudra Dámá (?) Sáha putrasa.

This is the only coin which bears the name of the repairer of the bridge, and that rather dubiously as the father of the prince who coined the piece. It has a date on the obverse which I have interpreted, 390 like the preceding.

Fig. 15, a silver coin belonging to MULLA FEROS of Bombay, similar to Mr. STEUART's coin, fig. 3.

Rājna mahā Kshatrapasa Vijaya Sāhasa, rājna maha Kshatrapasa Dāmā Sāha putrasa.

Fig. 14, a copper coin, unique, discovered by Lieut. CONOLLY at *Ujein*, and placed in my cabinet through his kindness. Obverse, a bull, with a marginal legend apparently Greek, some of the letters seeming to form the word *Pasileus*, &c.

Rajno maha Kshatra (pa)... the remainder of the legend lost.

The letters are larger and better formed on this than on the silver coins. Most copper coins of the series exactly resemble the silver ones with a head on the obverse. Col. STACY has a good specimen, of which the obverse (fig. 27) has apparently a date.

Fig. 16. In this silver coin found in *Cutch* in 1837, and presented to me by Mr. WATHEN, the central emblem of the reverse is changed to a kind of trident: the legend is also altered from that of a Satrap to one of a paramount sovereign:

परम भानुवीर राजाधिराज श्री कुमारगुप्त महेंद्रस्य

Parama Bhanuvīra Rājādhiraja Śrī Kumara Gupta Mahendrosya.

"Of the paramount sovereign the heroic king of kings ŚRĪ KUMARA GUPTA MAHENDRA."

Fig. 17, another of the same kind, having the same Sanskrit legend, but behind the head the Greek letters may be read ONONOR, or RAO NANO? it was presented to me with the last by Mr. WATHEN.

Figs. 18, 19, 20 and 21, have the same symbol, but the workmanship is very much deteriorated. The legend on them all has at length been deciphered by the collation of several specimens presented to me by Mr. WATHEN, and found in various parts of *Cutch*, *Kattywār* and *Gujerāt*, by Capt. PRESCOTT, Capt. BURNES, Dr. BURN; as well as the few inserted in the plates of Mr. STEUART's coins*.

परम भगदत्तम राजश्रीस्कन्दगुप्त क्रमादित्य

Parama Bhagaḍata ma (ha) Rāja Śrī Skanda Gupta (vi) kramaditya.

But as I have a larger assortment of the coins of the same king, to introduce into a future plate, I will postpone further mention of this series for the present.

* By a letter from Professor WILSON I learn that Mr. STEUART's Plate is to appear in the Royal Asiatic Society's Journal; but that it had time to journey to India and back before the outcoming number went to press! I regret I am thus deprived of the power of adding to this note the observations of the learned in England on the Surāshtra coins.

VIII.—*A letter to Dr. HELFER, on the Zoology of Tenasserim and the neighbouring Provinces. By Assist. Surg. J. T. PEARSON.*

In compliance with the commands of the Right Honorable the Governor General, I have much pleasure in offering the following remarks upon the points to which your attention may be usefully directed during your expedition to the coast of *Tenasserim* and the neighbouring provinces. And I do this the more readily, that I am satisfied, from my own experience, the hints of a long resident in a country may almost always be of use to a new comer in the prosecution of his researches into its natural history.

The first grand problem of natural history, beyond doubt, is the discovery of a new species of man. This, however, the naturalist will be fortunate beyond all others who is enabled to offer any but negative evidence to solve. But it is not impossible, perhaps not improbable, that some variety but little known, or which we are totally ignorant of may exist among the forests of the country; in like manner as the *Papurs* of *New Guinea*, and the *Shau halla* of *Abyssinia* live wild and remote from other men*. Accurate observations upon any portion of the human race are valuable, especially upon those who are little known to their civilized brethren.

In the next order of mammalia, the *Quadrumana*, a wider field will be open before you. Many unknown species or varieties of species are probably to be found in the forests with which those coasts are covered; and the discovery of another specimen of the gigantic ape, found by Captain COMEFOOT in *Sumatra*, and described by the late Doctor ABEL in the Researches of the Asiatic Society, may be made. This animal seven feet in height, would be valuable to the naturalist, and a well preserved specimen the greatest ornament of any museum.

Among the *Cheiroptera* any species of the genera *Galeopithecus* and *Pteropus* which you may meet with, will very likely be new, and consequently well worthy of preservation, and, indeed, the chances are, that in this family the greater part of the species on the coast of *Tenasserim* are altogether unknown.

At *Malacca* there is said to be a *Hedgehog* with pendulous ears: but the species is not well authenticated. If it really exist at *Malacca*, it will also, I should think be found in *Tenasserim*.

In the order *Rodentia* the researches of the naturalist will, it is probable, be richly rewarded. An animal, somewhat between a *mole* and a *rat* in form was found by Doctor RICHARDSON, I imagine in no very

* I believe Dr. HELFER has actually done what is here pointed out, by discovering a new race in the jangals of *Tenasserim*.

great scarcity, for he mentions two specimens as having been among his collections, but which he unfortunately lost. He states that it is called *poe*, by the Burmese; that the head is large and round, like an otter's; the cutting teeth like a rat's; feet slightly webbed, somewhat resembling in appearance, though not so strong as, the *moles*, with fur exactly like the *moles* but larger in the staple, and, as he thinks, even finer; that it is little larger than an English *mole*, and burrows with great rapidity. Dr. RICHARDSON further says, that, there are two kinds of the same animal, one being longer and covered with harsher hair than the other. As the animal is probably a new one, and the two kinds he mentions distinct species, it should be sought for and described, and specimens procured. The *squirrels* of that country probably bear a resemblance of those of the Islands of the Eastern *Archipelago*, of *Arracan*, *Assam*, and the lower ranges of the mountains of continental India; but some new ones must be met with. I have lately had one pointed out to me as an inhabitant of *Assam*, by Dr. McCLELLAND. He described it, as a very large black squirrel; much larger than the *Sciurus maximus*; and he states, that it is an inhabitant of *Baugmaurea* in *Upper Assam*; from which place he has given it the specific name of *Baugmaria*. I am not sure if Dr. McCLELLAND brought a specimen with him, but I rather think he did; and I am almost sure he has described it; nevertheless the arrival of other specimens is desirable, and they may be procured, it is likely, in the countries you are about to visit: as may also various species of flying squirrels, whether of the genus *Sciuropterus* or *Pteromys*.

Of the *Pachydermata*, the *elephant* and *rhinoceros* seem to be common in the provinces to the north and east of *Tenasserim*; and the *Malay Tapir* or that of *China* if there be such an animal, may also be met with. Of late a question has been raised as to the existence of the *Hippopotamus* in the rivers of India. Lieut. TICKELL of the 31st Regt. N. I. has stated, that while out with his regiment against the Coles, in 1833, he received intelligence of a large animal, said by the natives to be amphibious; and which from the description they gave him, he believed to be the *Hippopotamus*. If this be so, that animal may be found in our eastern Provinces; at all events, it is desirable to ascertain the existence, or probable non-existence of an Asiatic *Hippopotamus*. Reasoning from analogy the point is very doubtful; for if the *Tapir* of the east and south *America*, fill the place of the *Hippopotamus* of *Africa*, in the list of *Pachydermata*, then we have no reason to expect it here; but, on the other hand, the zoology of *Africa* is too little known to allow us to conclude, that the *Tapir* does not also exist upon

that continent: and if so, the *Hippopotamus*, or some analogous species will probably be discovered in *Asia* and *America*.

But one animal, though infinitely less in size than the *Hippopotamus*, is perhaps quite equal to it in point of importance; and may admit of a fanciful analogy in its habits. I allude to the *mole* the well known dweller under the earth, as the *Hippopotamus* is the dweller under the waters. The *mole* in its varieties seems to be common in most parts of Europe, though it is said not to be found in Ireland, and to be scarce in Greece, while its congeners *Chrysochlorus* and *Condylurus* inhabit the *Cape*, and *North America*. But as far as I am aware, no example of it occurs in *Asia*, within the limit of the tropical rains. It is possible this ignorance may be owing to a want of research; my own journeying in India having been confined to a small portion of *Bengal*, *Behar* and *Orissa*; where I may almost venture to say the *mole* does not exist. But I have made many inquiries of men likely to have observed it if present; whose marches have been extensive, and whom I have requested to inquire into the subject. Among these Ensign PHAYRE of the 7th Regiment N. I. has travelled through a great part of India from *Madras* to *Goruckpore*, the *Terai*, the kingdom of *Oude*, and *Assam*; and he informs me that he never met with, or heard of this animal, or any of its affinities, though he inquired of intelligent natives of those countries, and made careful observations himself. This is also confirmed by Dr. McCLELLAND, and Lieut. TICKELL, and by Mr. BENSON of the Civil Service, whose researches into the molluscous animals of India are well known. It will therefore be an object worth inquiring into, whether or not the *mole* or its affinities, is a native of the countries you are going to visit.

The *Chlamyphorus truncatus* of *South America*, in habits somewhat analogous to the *mole*, seems to have in others an affinity to the *Armadilloes* of the same continent. If, as has been said, it take the place of the *mole* in the tropical regions of the west, it is not improbable that some animal having an analogy, or perhaps an affinity to it, may be found in the east. In like manner, as you are aware the *Pangolins* of this country take the place of the *Armadilloes* and *Ant-eaters* in that, and the animal which forms the genus *Orycteropus* at the *Cape*, where, as I before said, the place of the *mole* is filled by the genus *Chrysochlorus*.

To return however to the *Pachydermata*: Ensign PHAYRE during his residence in *Assam*, met with a single specimen of an animal which appears to unite the genera *Sus* and *Dicotyles*, possessing the incisor

teeth of the hog, and the molar teeth of the *Peccary**. It was without tail, and although a female, no mammæ were discoverable, while the vulva was so with difficulty. The hair was exceedingly coarse, much more so than that of the hog generally is; the eyes strongly resembled those of that animal, the ears more rounded than his, and deeply seated in a kind of groove in the head. The height was about $10\frac{1}{2}$ inches, and the length from the tip of the tail to the vent $22\frac{1}{2}$ inches, measured in a straight line. It is to be regretted that the feet of this animal did not accompany the skin; but, as it is, there are sufficient grounds to conjecture the existence between *Sus* and *Dicotyles*. It was shot at *Bish-nuth* in central *Assam*, where it was discovered among some long grass, in which it ran, and from which it could not be driven: in this respect differing altogether from the manners of the hog, when similarly hunted.

While at *Maulmain*, the same gentleman was informed of the existence of a black tiger. This may be the *Felis melas*, which has been supposed to inhabit the *Island of Java* only; and which Mr. TEMMINCK according to LESSON, for I am at present unable to consult TEMMINCK'S monograph of the family†, believes to be a variety of leopard. Its discovery in a new locality is to be desired.

The wild cow is also a native of *Tenasserim*. The species may be the same as the *Bos frontalis* of *Sylhet*. Of other *Ruminantia*, deer are met with in great numbers, and probably new species, of their kind, and of the antelope may be discovered. Mr. PHAYRE was also told of a goat with one horn, resembling the celebrated unicorn (it may be of fable); a hint worth following up, for should there after all be no such animal, yet it is very likely some species will be discovered whose peculiarities gave rise to the story.

Of herbivorous *Cetacea*, the *Halicore* or *Dugong* is known to be a native of the seas of our southeastern provinces: and specimens of this animal would be valuable in a museum. Of piscivorous *Cetacea*, various species are also inhabitants of those seas, and probably new ones may be discovered, should you have the means of searching after them. The *Chinese*, *dubious*, and *black Dolphins* (*Delphinus Sinen-*

* After this letter was written and sent to Dr. HELFER I have been able to examine minutely the dental system of this specimen; and find that the last molars are present in the jaw though yet undeveloped, thus making the molars the same in number as those of the hog. The specimen may nevertheless be a distinct species though it cannot form a separate genus.

† I have since seen this monograph as given in the *Zoological Journal*, according to which M. TEMMINCK states, that young have been found in the leopard's lair, one black and the other of the usual color.

sis, dubius et niger), are possibly there, if any where; as is also the *Oxypterus Rhinoceros*, a species, like them, not well authenticated.

The *Birds* of *Tenasserim* appear in some respects to resemble those of the *Islands*, and of the continent of India. But the *Dodo*, called by SWAINSON the rasorial type of the *Vulture* family, and supposed by him to belong to the African races, may possibly be found there: and, if so, I need not point out the honour which will belong to the discoverer of this long contested species. The *Vultures* and *Eagles* of that country are but little known so that researches after them must be rewarded by the discovery of new or rare species. Birds of the genus *Buceros* are there in perfection: the *Rhinoceros Hornbill* the most striking; and the *Concave Hornbill* (*Buceros Homrai* of HODGSON) the largest, being natives of the country. The *Cassowary* (*Casuarus Emu*, of some authors, the *Struthio Casuarus* of LINNÆUS) may perhaps be met with. Among the *Psittacidæ* are many species; some perhaps, intermediate between those of New Holland and India. *Gallicaceous* birds abound in southern *Asia*, and in the *Islands*, and many rare, and no doubt some new species will be brought to light by a diligent inquiry after them. Among these the beautiful *Columba Zoæ*, an inhabitant of New Guinea, may extend to the coast of *Tenasserim*; the magnificent *Argus Pheasant* is supposed to be found there; and the same may be expected of many other species in this, the most important to us of all the families of the feathered race. Wild poultry should be particularly sought after, and living specimens of them and of the various species of *Pheasants* procured.

As objects of curiosity the *Esculent swallow*, its nest, eggs, and young should be sought after. Mr. PHAYRE presented to the Asiatic Society, nests which he brought from *Tenasserim*. He also heard that the breeding of adjutants takes place there: a fact it would be well to ascertain as well as its manner: and various species of that beautiful family the *Crimyrides* the humming birds of the east, are there to be met with.

The other *Vertebrata*, reptiles, and fishes, of that country are so little known as to give a fair promise of almost all that are caught being new species. Of the *Saurian Reptiles* the *flying lizard* (*Draco volans* of LINNÆUS) was brought from thence by Mr. PHAYRE, and presented to the Asiatic Society, and Col. BURNEY, Political Resident in *Ava*, presented me with several specimens he brought from *Pegue*. To the latter gentleman I am also indebted for a curious species of *Chelonian reptile*, a tortoise with a tail, as long, or longer than the body, which

seems to be new. But, as I before said, almost every reptile and fish of the *Tenasserim* coast must necessarily be so.

In the *Invertebrata*, a still wider field opens before the enterprising naturalist, in the seas, and on the coasts you are about to visit. The *Cephalopodous* and *Pteropodous Mollusca* may be said to be unknown. The terrestrial and fluviatile *Acephalous*, and *Gasteropodous* sections of the same class are equally so. So extreme is the ignorance of naturalists of the Indian animals of this class, that one of the most eminent English writers in a late work expresses his surprise that the rivers of the east should have produced but six or seven species of shells, while those of *America* are known to contain upwards of 150. In my cabinet there are not less than 28 species of fluviatile shells, 20 of which I have found in the tanks and nullahs in the neighbourhood of Calcutta, and in the river *Hoogly*, a fact sufficient to prove the fault is not in nature.

In marine *Mollusca* the rarest, and most beautiful, genera are natives of our Indian "narrow seas" as well as of the Indian ocean. The genera *Conus*, *Voluta*, *Harpa*, *Scalaria*, *Dolium*, *Venus*, *Isocardia* and many others are to be found there, rich in species, which require only a careful collector to bring them to notice. Many species of the genus *Patella* and its congeners from the coast of *Arracan*, were presented to me by Mrs. HALHED. And, not to dwell upon this part of the subject, we may venture to say, that by a careful dredging for marine, a diligent search for terrestrial and fluviatile shells, and by hanging out a tow line on your voyage for Pelagic mollusca, you will be able to make a splendid collection of new genera, and new species in this most beautiful branch of natural history.

Of the *Crustacea*, *Arachnida*, *Insects*, and *Zoophytes* upon our coasts, our ignorance is more than equal to what it is of the *Mollusca*, while to attempt to enumerate even the genera you will meet with, would extend this paper beyond all reasonable limits. Besides, my remarks must be for the most part merely conjectural, and you will, of course, gather all you meet with, and particularly inquire after any curious in themselves, or useful in medicine and the arts. Among the former the phosphorescent *Pennatulæ* are natives of the Straits of *Malucca*; but whether of the European species or not, I am not informed. Of the latter, some species of *Cantharidæ* are met with, in numbers sufficient to be used in blistering; and other insects may be known to the natives of real, or fancied, specific virtues: if so, such should be inquired after: I may also mention the *Cochineal insect* (*Coccus cacti*, LINN.) which some think may after all be found in India, though from its place

being apparently filled by another species* of the same genus, I have little hope of your discovering it.

With regard to the internal parts of animals; those of *Vertebrata* should be preserved, as well as the animals themselves of those *Invertebrata* which are provided with a shell. Of the importance of these in systematic classification you are well aware.

The little time I can command must be my apology for not entering here upon the subject of the preservation of your specimens. All I know, however, about it is fully detailed in a paper I published last year in the Journal of the Asiatic Society; a copy of which I have the pleasure to annex. In that paper you will find the method I have been induced, by the experience of several years in this climate, to recommend, and which has been practised in my own cabinet, and in the museum of the Asiatic Society, with the most perfect success.

In conclusion, permit me to congratulate you upon an appointment which promises so fair an opportunity of distinction to yourself; and such great advantage to zoological science.

IX.—*Mode of Manufacture of the Salumba salt of Upper India, extracted from a Report by C. GUBBINS, Esq. C. S.*

The *Noh Mehāl* situated below and to the east of the *Mewāt* hills, and between two jheels, that of *Kotela* to the south and that of *Chundainee* to the north, comprizes 12 villages,

<i>Chundainee,</i>	<i>Baee,</i>	<i>Bas,</i>
<i>Noh,</i>	<i>Selumbah,</i>	<i>Boutka,</i>
<i>Khairlah,</i>	<i>Salaheree,</i>	<i>Eldbur,</i>
<i>Mulub,</i>	<i>Ferozpore,</i>	<i>Murara.</i>

The area of these villages is about $39\frac{1}{2}$ square miles.

The salt is made by solar evaporation from well water, exposed in pukka vats or reservoirs of an average of $3\frac{1}{2}$ cubits deep, 70 cubits long and 40 cubits broad. These reservoirs are built in sets of six, and are filled from wells, one of them is chosen which is always kept full from the remaining five, while these again are refilled from the well as often as they empty.

Two years is the usual time for the first collection of salt (this is however often retarded or accelerated by a heavy or scanty fall of rain, during the wet months): when a red scum begins to appear on the surface of the water fresh bushes are thrown in, chiefly of thorny plants, such as the Keeker, Jhoud, Joankur and the Joasa plants, and by the

* Further reflection has led me to think the *Sylvestre*, or *C. Tomentosus* is a variety of and not a distinct species from the *C. cacti*.

time that the bark decomposes the salt has completed its crystallization.

The pits last, without requiring repair, for about six years; and yield salt every year after the first produce.

The following is an average account of expense and produce.

Produce of first 3 years		Expense.	
from outlay,.....mds.	1,500	Outlay for 6 pukka reservoirs at 50	} 300
4th.....	830	per each.....	
5th.....	830	Expense of drawing water for 6 yrs.	} 150
6th.....	830	at 25 Rs. per ann.....	
<hr/> Mds. of 92 Sa. Wt.... 3,990		<hr/> Sa. Rs.... 450	

The salt is stored without any care or trouble, a pit is dug as close to the salt pans as possible averaging 8 cubits deep and*— diameter, into this the salt is thrown; tenacious clayey earth is then spread over it and the outer surface of the pit raised slightly higher than the surrounding ground.

X.—*Proceedings of the Asiatic Society.*

Wednesday Evening, 2nd May, 1838.

The Honorable Sir EDWARD RYAN, President, in the chair.

Dr. CHAS. HUFFNAGLE, proposed at the last meeting, was elected a member of the Society.

H. V. BAYLEY, Esq. C. S. was proposed by H. T. PRINSEP, Esq., seconded by Sir E. RYAN.

Lieutenant C. B. YOUNG, Engineers, was proposed by the Secretary, seconded also by the President.

Letters from Dr. C. J. MACDONALD, M. C. OMMANNEY, Esq. and Lieut. H. BIGGE, acknowledged their election.

Establishment.

The Secretary announced that Mr. KITTOE's appointment to the survey of the new line of dâk road to *Bombay*, had left the curatorship and librarianship vacant, whereon

Mr. ALEXANDER CSOMA, Kőrösi, was unanimously elected Librarian, on the arrangement formerly offered him.

After some discussion as to the best mode of conducting the management of the museum, it was proposed by Professor O'SHAUGHNESSY, seconded by the President,

That Mr. GEORGE EVANS, be appointed Curator on the same allowance as was granted to Dr. PEARSON.

The Secretary further stated that the repairs of the house, which he had intended to have committed to Mr. KITTOE's care, now required a professional superintendence, when it was determined to employ Mr. ROWS of SHERIFF and Co.'s establishment.

Library.

A letter was received from Dr. JOHN REDMAN COXE, Prof. Mat. Med. Univ. Pensyl. forwarding the following publications in which he had been engaged at different periods, for presentation to the Society. Some of them had previously been presented through the late Dr. HUNIER.

An inquiry into the claims of HARVEY to the discovery of the circulation of the blood.

* The diameter is always proportioned to the quantity of salt to be stored.

Philadelphia Medical Museum, vols. 1, 2, 3, 4, 5, (the first out of print.)

The emporium of arts and sciences, conducted by Dr. COXE, Philadelphia—1812-13. Nos. 1 to 12 forming two vols.

Practical observations on vaccination—*by the same.*

Æsculapean Register, 1824—*by the same.*

Observations on combustion and acidification, Pamphlet, Philad. 1811.

Observations on a letter from Dr. N. CHAPMAN to Dr. W. B. TYLER on cholera, Philad. 1833.

Some observations on the Jalap plant.

An introduction to solid Geometry and to the study of chrysallography by N. J. LARKIN, M. G. S. London, 1820.

Appeal to the public from the proceedings of the Trustees of the University of Pennsylvania.

A letter from J. VAUGHAN, Esq. librarian of the American Philosophical Society was read, forwarding the following works.

Darlington's Flora Cestrica, or description of the flowering and filicoid plants of Chester county Pennsylvania.

American Almanac and Repository of Useful Knowledge, 1838.

Notice of the Academy of Natural Sciences of Philadelphia by Dr. HARLAN—*presented by the author.*

The following were also presented :

The proceedings of the Bombay Geographical Society, for February 1838, *forwarded by the Society.*

Radde-u-din-musalmani or refutation of Muhammedanism, by the Rev. J. WILSON, D. D. Bombay, 1826—*by the Author.*

Proceedings of the Agricultural Society—*by the Secretary.*

Colonel MACLEOD, V. P. Chief Engineer, presented GREGORY's Highland and Isles of Scotland.

Dorje ling, a compilation of all the official information, respecting the capabilities of that station, as a Sanatorium—*by H. V. Bayley, Esq. C. S.*

KIRBY and SPENCE'S Entomology of Insects, 2 vols.—*presented by W. Cracroft, Esq. Museum of Antiquities.*

Lieutenant-Colonel STACY, submitted for inspection and temporary deposit in the Society's Museum, a female image procured at *Muttra*; supposed to mark an epoch in Hindu sculpture, on which subject a note by the proprietor was read.

Captain A. CUNNINGHAM, presented two fragments of sculpture procured by him in his journey to *Simla*; one of them bears the following date. संवत् ११८३ वैशाख वदि ४ रवि दिन—the name of the maker of the image is worn and illegible.

On the top of this fragment are two feet of a female with bangles.

The other fragment (in mottled sandstone, is of DEVI holding a child (GANES) in her lap.

The Secretary read the following reply from the Secretary to the Governor General, relative to the further examination of the antiquities of *Junagarh* and *Girinagar* in *Gujerat*.

To J. PRINSEP, Esq.

Secretary to the Asiatic Society.

SIR,

I am directed to acknowledge the receipt of your letter, dated the 28th ultimo, to the address of the Right Honorable the Governor General, and in reply, to transmit for your information copy of a communication this day made by me under the instructions of His Lordship, to the Acting Chief Secretary to the Government of *Bombay*, to depute a qualified officer for the purpose of taking a facsimile of the inscriptions alluded to, and generally, to collect all information which can be had regarding them, as suggested by you.

I have the honor to be, &c.

(Signed)

W. H. MACNAGHTEN,

Secy. to the Govt. of India, with the Govr. Genl.

Simla, 18th April, 1838.

To L. R. REID, Esq. Acting Chief Secy. to the Govt. of *Bombay*.

SIR,

I am desired by the Right Honorable the Governor General to forward to you for the purpose of being laid before the Right Honorable the Governor in Council

of Bombay, the accompanying copy of a letter to the address of His Lordship from Mr. J. PRINSEP, Secretary to the Asiatic Society, dated the 28th ultimo.

2. I am directed at the same time to express the wish of His Lordship, should the Right Honorable the Governor in Council be aware of no objection to the measure, that an officer qualified for such a duty and interested in it, may be deputed for a limited period without loss of allowances, and with power to incur some reasonable amount of contingent expense, to take a facsimile of the inscriptions alluded to, and generally, to collect all information which can be had regarding them, as suggested in Mr. PRINSEP's letter.

3. It will be observed that the names of three officers have been indicated by Mr. PRINSEP as being peculiarly well qualified for the duty in question.

I have the honor to be, &c.

(Signed.) W. H. MACNAGHTEN.

Simla, 18th April, 1838.

Secy. to the Govt. of India, with the Govr. Genl.

By permission of General COURT, the facsimile of a circular copper-plate on its way to M. JACQUET of Paris was exhibited; also drawings of two coins of *Undopherres* or *Gondophares* of new types, in which the letters of the name were very distinct.

The circular plate is a kind of primer, containing the Nāgarī Alphabet, arranged, the vowels in the centre and the consonants in their several classes around, with the letter *Sri* in a cipher, and the Buddhist invocation *ॐ नमो अराहन्तानां* *namo Arahan-tanam*, between each compartment.

The margin contains a family pedigree in three lines, in a kind of vernacular of which the following is a literal transcript.

श्रीजसकीरतिः संवत् १६५१ कातिगसुदि. ५ गुरुवार काद्यासधे
माथुरावाले पुष्करगणे. तत्पदेतदरक्त श्रीगुणचन्द्रः तत्पदेतदरक्त श्री
सकलचन्द्रः तदारक्त तत्पुत्र २ प्रथमपुत्रसंगही तुलसदास. द्वितीयपुत्र
संगही शुरहंज तत्पदे. तदारक्त मोहडंसैण तदाम्नायेगोइल गोत्रेसनाम
वास्तव्यसगहीते जयालु तस्यपुत्रद्व २ प्र. पुत्रचंचलदास. द्वितीयपुत्रधर्म
दास. संगही तुलसी दास तेन इटजंज सिद्धचक्र साकरमितकर्मक्षयाय
हास. सगहीतुलसी दासस्यनाथादी णामलही ॥

Prosperity, glory and fame Samvat 1681, in the light half of Kartik, 5th, Thursday, *Kādyasingha* (?) native of Mathura in *Pushkara gaon* (?) in his succession was *Sri Guna Chandra* whose successor was *Sri Sakala Chandra*; his successors were two sons, the first own son was *Tulsidas*;—the second son *Surahantri*,—his successor was *Mohan Sain*, of whose descent, in the *Gohila* tribe, a village was named after him *Jupālu*. He had two sons, 1st *Chanchala dās*, the 2nd *Dharma dās*; by whom this *jantra* or *Siddha chakra* (magic circle) for the reward of the virtuous acts of *Tulsi dās* is made, and on the margin the names of *Tulsi dās*'s ancestry are written.

Literary.

A letter was received from Mr. Sec. H. T. PRINSEP, forwarding by desire of the Hon'ble Mr. Ross, President in Council, a Pushto or Pan-jābī Grammar, prepared by Lieutenant LEECH, of the Bombay Engineers.

The Secretary explained that the Committee of Papers had determined that the two former grammars (*Belochki* and *Baruiki*) by the same intelligent gentleman were not adapted for publication in the *Researches*, but would be more useful as a separate volume.

Resolved that with reference to the Pushto Grammar of Dr. CAREY, already in existence, the works be referred to the librarian to consider on the mode of their publication.

The President in Council likewise presented for such notice as the Society might think fit, a paper on the *Siahposh Kaffirs*, with specimens of their language and costume, by Captain A. BURNES.

[Printed in the present number.]

Dr. A. BURN, presented facsimile of a fourth copper-plate grant found at *Kaira in Gujerat*, which in all but the names proves to be the duplicate of one formerly submitted.

Lieut. POSTANS addressed to the Society, some further extracts from the *Tohfut ul kiram* and the *Chach Numeh*, bearing on the history of *Sinde*.

[Printed in the present number.]

Physical.

The Rev. J. McQUEEN, presented on the part of Dr. DUNBAR, *Rum-gurh* battalion, a second series of geological specimens collected in the *Cole* country. He begged they might with the former collection be reserved at the owner's disposal after examination.

Dr. R. HARLAN, transmitted from the Philadelphian Museum, casts made by himself of the remains of the *Busilosaurus of Alabama*, a fossil animal described and depicted in his "Medical and Physical Researches."

The fragments comprise the jaw, a humerus, a vertebra and some other bones.

Dr. G. G. SPILSBURY, presented a large mass of indurated clay, containing fossil shells, with a note on the various sites in which the same species have been discovered, with drawings by Lieut. P. A. REYNOLDS.

Also, a specimen of *Nerbudda* coal from Major OUSELEY.

Notice of the Academy of Natural Sciences of Philadelphia, by Dr. HARLAN—presented through E. RYAN, Esq.

Lieutenant HUTTON, forwarded specimens of the lichens of the *Himálaya*, with solutions in ammoniacal liquid for comparison with those received from the Royal Asiatic Society. The following note accompanied them.

Meerut, 23rd February, 1838.

The accompanying specimens of dyes from Hill lichens, I had lately the honor to submit for inspection to the Governor General, and I am requested by his Lordship to forward them for examination in Calcutta. In order to afford you all the information I can, regarding them, I have taken the liberty of repeating the substance of my communication to his Lordship, during his recent visit to *Meerut*.

"During my rambles in the neighbourhood of *Simla*, and especially in a hurried trip to the *Burenda Pass*, I noted an immense variety of these plants, both on rocks and trees, but not knowing at that time that information regarding them was required, I neglected to secure specimens of the greater number.

"Some few, however, which attracted notice from the beauty of their forms, I collected, and having since subjected them to the usual test of diluted liquor ammoniacæ, I find that out of eight plants, six yield coloring matter." These species might be procured in any quantities from the forests of the interior and from the rocks at the *Burenda Pass*. In collecting the plants much care and attention would be necessary, in order to "ascertain at what stage of their growth, or at what season of the year, they produce the greatest quantity of coloring matter," by which knowledge all unnecessary waste of the plants would be avoided, and also a better article furnished to commerce.

"It is probable that the higher and more arid tracts of country in *Kunawer* and *Spiti*, beyond the influence of the periodical rains, may produce some valuable lichens as, I believe it to be a fact, that the drier the climate, the more rich and valuable are the dyes."

You will find that the plants have been left in the solution; this is because of some of them I have no more left, to show the species.

The vial No. 1, contains a species which is very abundant, and appears to yield a large quantity of color. (This *orchilla* seems equal to the canary specimen.)

No. 2. Is I think the same plant in a different stage of growth. Both are abundant on trees.

No. 3. Is from the *Burenda Pass*, where it is very abundant on rocks near the snow.

No. 4. From forests of the interior; found both on rocks and trees.

No. 5. Is very abundant in the forest of *Muhassul*, one march from *Simla*.

No. 6. From *Simla* to the *Burenda Pass* on trees.

The other two plants which I submitted to the same test, did not even discolor the solution in the least.

These specimens have been very roughly tested, as I knew not what were the quantities of ammonia and water.

You will greatly oblige me by letting me know as soon as possible whether any of these are likely to be of use, as his Lordship the Governor General expressed a wish that I would inform him of the result of the examination as soon as I could.

In addition to the foregoing, I have the pleasure to send a few specimens from *Subathú* which I have not yet tested.

Nos. 7, 8 and 9, are abundant on rocks and may possibly prove to be the same species. No. 10, on rocks, not so abundant.

Of No. 1, I have put a small quantity in the box also.

The specimens will be forwarded home without delay.

Mr. C. SYMES, Branch Pilot, presented a stuffed specimen of the sword fish, on the part of Mr. J. T. TWISTEN.

Extract of a letter from Captain JENKINS, furnished the following information regarding coal and iron of *Assam*, from Captain HANNAY.

SIR,

Jeypore, the 1st February, 1838.

With reference to your letter of the 15th December last, enclosing letters regarding coal, I have the honor to state that since my arrival here I have discovered several beds of workable coal, and that I have already commenced clearing a large vein about 2 miles distant from this.

As I wish to collect the coal at as little expense as possible, I have commenced working the vein nearest to Jeypore, and before I came to this determination I employed myself on exploring the neighbourhood, and have been very successful in finding coal and iron in great plenty.

The coal is generally in veins of considerable size and is turned in all directions without reference to any particular bearings. The outcrop of the different strata or vein may, I believe, be seen in most of the small ravines or water-courses which come from these hills.

The coal which has come under my observation appears to me to be of a description between, slate coal No. 1, and canal coal. The best of the bed being as yet unseen, however I cannot speak correctly of its qualities for manufacturing purposes.

In the soil of the hills generally, large and small amorphous masses of clay iron ore are found, some of the masses of a size sufficient for two men to lift, and on one of the hills, the soil of which is highly red colored, mines or wells are still visible of a considerable depth from which the above description of one bed been extracted many years ago.

Nodules of iron ore are also abundant in the strata above the coal barring only a stratum of blue sand of 3 feet in depth separating the two.

Varieties of this ore are found in several other localities in the hills as also in the bed of the *Dehing* and on both banks, for some distance above this; some of the specimens are apparently brown and red hematite, and as an opportunity offers, I shall have much pleasure in forwarding specimens of the whole.

Petroleum is also plentiful, and it here presents itself rising from beds of coal which are visible; the description is of a thicker consistency than what I had before seen in this country; the color is also dark brown, and it does not possess so pungent an odour.

I have also to state that in one of my excursions in the neighbourhood, I walked through a tea tract of considerable extent, contiguous to what I believe had been pointed out to some of Mr. BRUCE's people.

What I have seen is entirely on hilly ground, and it seems to me to present some peculiarities which I think necessary to mention. The hill is about 80 or 100 feet high, the soil is of a deep-red color, and a portion of the tract is the locality of the iron ore, which had been dug for in former years, some of the tea trees growing out from the mines or wells.

The tea trees are tall and slender with a whitish bark, and the leaf does not appear to me to be so coarse or of so dark a color as I had before observed, and the seed is very small: the soil is no doubt congenial to the growth of the plant as seedlings are plentifully scattered about. The jangal is bambu*.

This tea tract in its general appearance comes nearer to the idea I had formed of the localities of this plant in China, than any I have hitherto seen.

I have, &c.

(Signed) S. HANNAY.

Captain LLOYD, presented 22 birds and 1 squirrel obtained on the *Sundarban* coasts.

Specimens of Caoutchouc, manufactured by Dr. SCOTT, were laid on the table.

* Generally with exception of a few very large trees.

One of these in the form of a large cylindric boot was claimed by Dr. SPRY, as having been intended for transmission by him to the English manufacturers. It was explained that the cylinder or bottle form was the most convenient for the makers at home, who place the cylinder on the lathe and cut off by machinery a continual thread therefrom. This use was as yet unknown to Indian cultivators who imagined the Caoutchouc was only intended for solution.

Captain LLOYD, presented through Dr. McCLELLAND, a specimen of the mud brought up from the *Swatch*, or place of no soundings at the top of the Bay of Bengal. The following note by Dr. McCLELLAND was read.

The specimens were brought up from 200 fathoms on the north side of the *Swatch* at a short distance from shoal water by which it is said to be surrounded; but Capt. LLOYD supposes from the eddy that here appears, though slightly, to run against the tide, that the *Swatch* is open to seaward.

These are the deepest soundings that have been made, and the texture of the deposit brought up bears a singular resemblance to that of the upper beds of primitive clay-slate*, though it possesses all the characters of a deposit now forming. Compared with specimens brought up from less depth, those from the *Swatch* are more compact, and show a more laminated and finer texture.

Their color is also more uniform and unlike deposits that take place at ordinary depths; it is a greenish grey, similar to that of the peculiar slate to which it has been compared.

The *Swatch* has been supposed to be a circular basin, bottomless, though surrounded with sands and shoal waters. Capt. LLOYD however suspects that shoal water is not to be found to seaward, and he was disposed to countenance the opinion that this trough may be occasioned by the back currents caused in the Bay by the two great currents from the *Hoogly* and *Megna* between which it is situated; but the number of other outlets from the Sundarbans by which a great portion of Gangetic waters escape opposite to the *Swatch*, and the absence of any general retrocession of currents between the estuaries of the two great rivers, induced him to repose little confidence in the opinion.

It may however be remarked in favor of the above opinion, that Capt. LLOYD's observations were made during the dry season, when the peculiar influence of the rivers on the Bay may be supposed to be least. At all events we must ascribe the *Swatch* to a comparative interruption of deposits at the spot, and if the force of the two great bodies of fresh water falling into the Bay from two parallel directions be sufficient during the rains to cause an opposite current of sea water to rush back between them, a trough similar to the *Swatch* would be the natural consequence.

We might even conceive the volume of sea water which would be thus driven back by the impetuosity of the two great river currents, to be so assisted by the S. W. monsoon and the peculiar conformation of the Bay, as to overcome the comparatively weaker currents from the Sundarbans opposite to the *Swatch*, directing them on either side to the currents from the two great rivers.

The following extract of a letter from Dr. CANTOR, dated *Cape*, 17th January, 1838, was read.

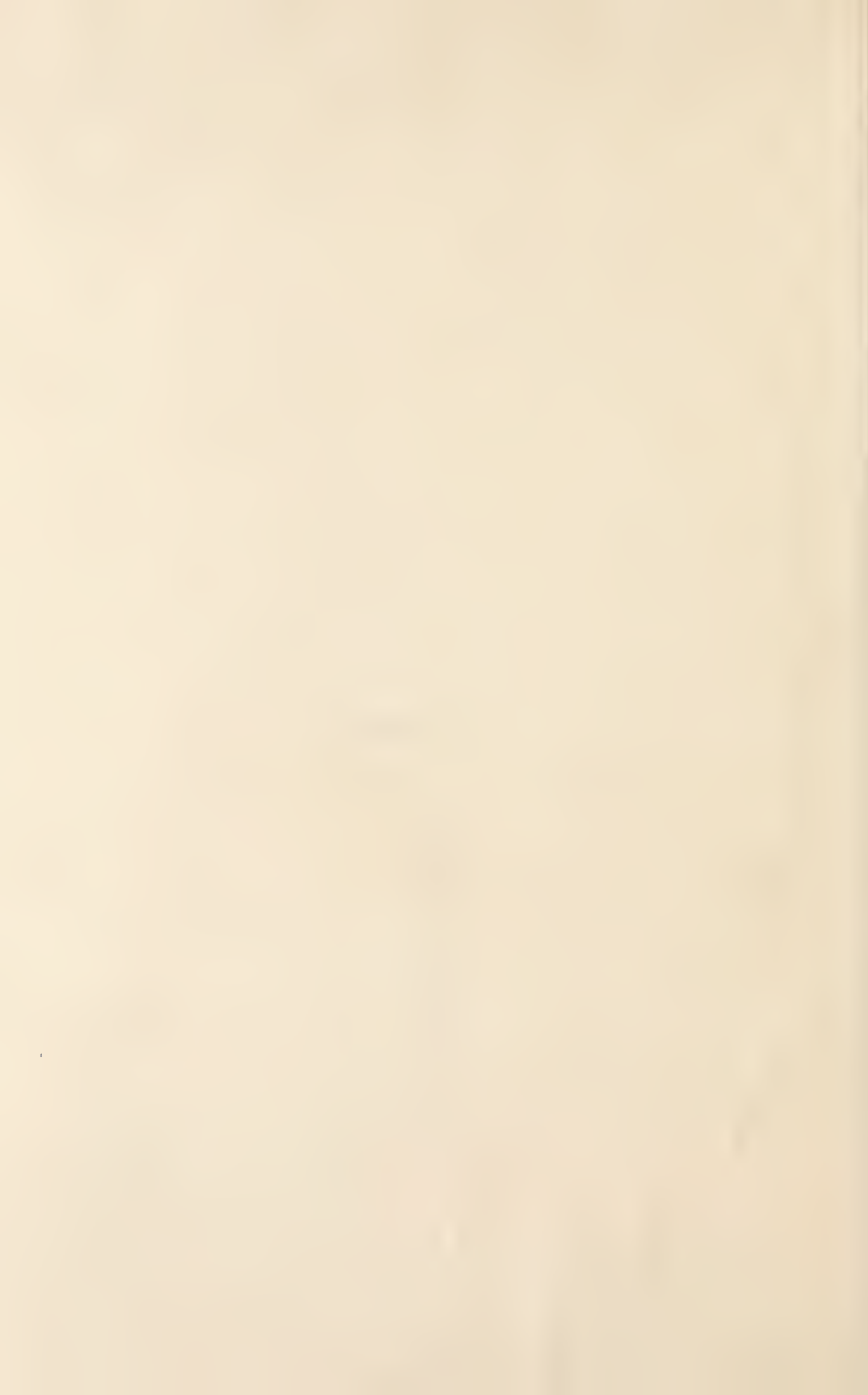
Cape, 17th January, 1838.

"I have spoken to Sir J. HERSCHEL, about our museum, and I hope that your plan of exchange may by and by be realized; it will however take some time, because the Cape museum is very poor in every branch, except in the ornithological. A single, *half-cleaned* skull of a rhinoceros was the only osteological preparation I observed. As for a skull of the Hippopotamus, Sir JOHN told me that he has constantly been looking out for one but without success; in the Cape district they are nearly extinct and although they swarm in the interior, the dutch Boors cannot be prevailed upon to preserve any other part of the skull but the tushes. I am about making out a list of such duplicates which I know you are anxious to get rid of, and Sir JOHN, who embarks for England two months hence, is going to give the list to M. VALETTE the curator.

He inquired very anxiously about the fossils, which Mr. POPE (he was never able to find him out to deliver your message) discovered at the Cape (query where?) of course I could not tell more than I had heard from yourself, and the short note in your Journal. The following anecdote will I think prove of interest to you. In the interior is found a great number of isolated blocks of iron, which Sir J. by analysis found to contain nickel, and they are meteoric, of course. Some time ago Captain ALEXANDER brought samples of iron from *an ore* in the interior which Sir JOHN found also to contain nickel, and to be identical with meteoric iron. So add to all theories upon the formation of 'meteoric' iron. You will however in a short time see more about it from Europe.

* It struck us as resembling more in colour and texture the greenish clay ejected from the mud volcanos of *Râmri* island, see FOLEY's Desc. J. A. S. IV., 28.—Ed.





JOURNAL

OF

THE ASIATIC SOCIETY.

No. 77.—May, 1838.

1.—*Second Report on the Examination and Restoration of the Mackenzie Manuscripts. By the Reverend WILLIAM TAYLOR.*

A Palm-leaf MS. No. 165, Countermark 64.

A:—TAMIL.

I.—*Chola pūrva Patayam, or ancient Chóla record.*

This is a large Tamil manuscript containing 48 Palm-leaves in the introductory portion and 219 in the remainder. It is perfect as regards the numbering of the leaves, and is generally in a good state of preservation: a few of the leaves are a little damaged, but these, having been restored, the whole will last in good preservation, for several years.

Brief Abstract.

Reference to inscriptions at *Conjeveram*, and to VIKRAMÁDITYA the son of GOVINDA, slain by SÁLIVÁHANA. It states that SÁLIVÁHANA was born in the country of *Ayodhya*, in a potter's house, under the influence of ATHI-SESHAN. He acquired great skill and prowess; and conquering VIKRAMÁDITYA, subdued also the *Ayodhya** country. An era was formed termed the era of SÁLIVÁHANA. In his time there was great disorder, Hindu fanes, rites, and institutions, all were neglected. SÁLIVÁHANA was a *Samana* (or *Jaina*) a worshipper of *Sarvésvarer* of a venomous spirit, and in these he gloried. He destroyed the fanes and sacred edifices of the Hindus of five classes, without favor or distinction. He overthrew all privileges which Hindus derived from VIKRAMÁDITYA. He persecuted and oppressed all who would not

* Whence it appears either that the author made a mistake or else that there was a second *Ayodhya*. VIKRAMÁDITYA ruled over *Gujerat* and *Malwa*, and derived tribute extensively from other countries. *Ayodhya* may however, be viewed as an epithet, "exempt from war."

